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EDITORIAL

UNQUESTIONABLY there are problems facing all sections of the Australian fruit industry, though it may be cold comfort to know that problems of all kinds are in front of all sections of primary producers.

These problems are not confined to Australia, hence the system which has grown up for assistance by Governments in various ways to assist primary producers.

In the several branches of the Australian fruit industry growers have achieved varying measures of success by means of organisation.

Where industries are not yet sufficiently organised the producers would do well to remedy this defect.

Following the decision of the Privy Council in the Dried Fruits (James) case, which, in the opinion of the Commonwealth Solicitor-General (Mr. Menzies) has shattered the State Acts for orderly marketing, growers of dried fruits are considering other methods, by which their majority decisions can be enforced (i.e., apart from an amendment of the constitution), and this may take the form of an excise on production with a bounty on export to equalise returns to all producers.

The problems which confront Apple growers include the possibility of contracting overseas markets, an increase in production, plus the fact that for several years past seasonal factors have reduced crops in some of the States.

When a full crop is produced in all the States there will surely be severe problems of distribution, for Apples will hardly be worth the expense of harvesting and packing.

With regard to export, growers now have an effective instrument in the Australian Apple and Pear Export Council; the forthcoming conference at Adelaide in October is fraught with great opportunities, for whatever weaknesses have become apparent, the

(Continued on page 4.)

"HARVEY" FRUIT GRADERS
and Processing Equipment

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THE HARVEY IS 100 PER CENT. EFFICIENT FOR GRADING FLAT APPLES. IT STANDS THE FLAT FRUIT ON ITS TRUE GRADING EDGE, AND THE FRUIT IS NOT KNOCKED OFF ITS GRADING EDGE AND ALLOWED TO SLIDE ON ITS FLAT TO THE WRONG SIZED BINS AS IN THE CASE OF THE MECHANICALLY DRIVEN ROLLER.

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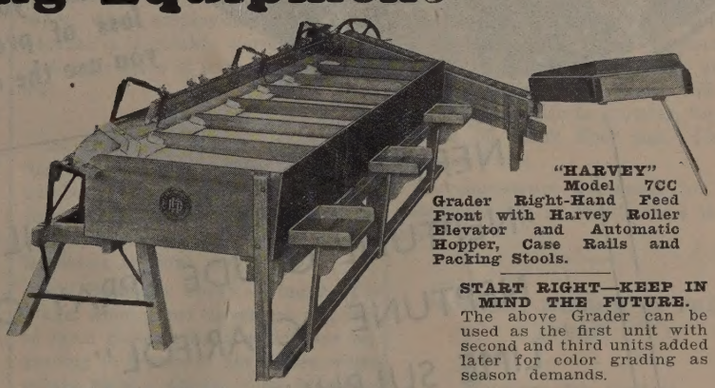

"HARVEY" Model 7CC Grader Right-Hand Feed Front with Harvey Roller Elevator and Automatic Hopper, Case Rails and Packing Stools.

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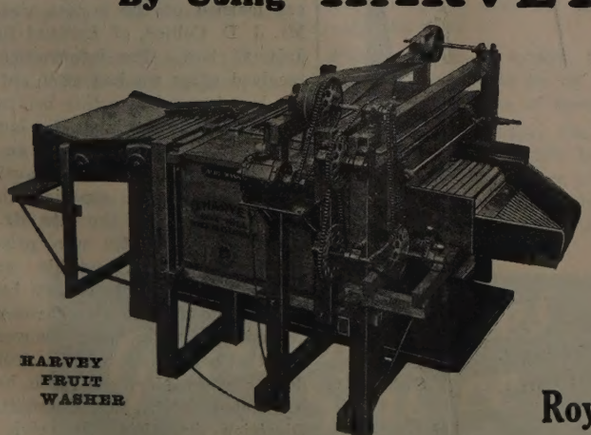

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power will be there to effect the needed remedies.

If additional authority be needed, it may be in the granting by the Commonwealth of power to issue licenses for export; and certainly if the matter of an excise be decided upon by the Federal Government, this would provide for equalisation as between export and local prices, and in addition would yield sufficient for an intensive fruit advertising campaign.

There is no more urgent need than for an advertising campaign to increase Australian fruit consumption.

But the suggested excise may be a long way off, and in the meantime the need is paramount for funds to be raised for the advertising campaign.

One aspect is, of course, outstanding, and that is the need for the more effective organising of the Australian markets. The recent Interstate Conferences on grading have done much good, having cleared the air and prepared the way for more intensified activity.

Leaders in the industry in all the States have been giving these matters close and ernest attention, and it is certain that when the Australian Apple and Pear Export Council meets in Adelaide, some definite proposals will be forthcoming to put this national industry on a better footing—for the benefit of growers and all interested.

We have to think in big terms these days. We live in a rapidly changing world. Perhaps some old prejudices may have to be scrapped, but if it means better returns and better conditions for the present and the rising generation, then in years to come there will only be gratitude that the presence of these difficulties pointed the way to their overcoming and the uplifting of the industry.

Prosecutions.

The list of recent prosecutions by the Victorian Department of Agriculture does not make pleasant reading—or perhaps it is pleasant reading according to the attitude of the reader.

Fines amounting to £44/10/-, with over £14 costs were imposed in one month for the following offences:—Failure to eradicate Codlin Moth in trees; exposing for sale Apples infested with Codlin Moth; attempting to sell diseased Apples.

Victorian Berry Growers.

At the recent annual meeting of the United Berry Growers' Association the President, Mr. Walter Jeeves, said that as regards prices, the year had proved satisfactory, but the spread of wilt had greatly reduced the yield. Mr. Jeeves also stressed the unfair incidence of the Sugar Agreement and the need for a referendum as to its continuance.

It was decided to join the newly-formed Victoria Market Users' Association.

All the retiring office-bearers were re-elected.

PERSONAL.

General J. Heane, President Fruitgrowers' Federation of N.S.W., and Col. E. E. Herrod, Secretary, have been appointed delegates to visit New Zealand in connection with fruit industry enquiry which is being conducted in the Dominion.

The alternative delegate is Mr. F. B. Mackenzie.

Mr. W. Eagle, a well-known fruitgrower of Harcourt, Victoria, attended the recent Frost Prevention Conference at Mildura, and his contribution to the discussion was appreciated.

OBITUARY.

Mr. J. D. Collins.

It was with regret that fruit growers learned of the sudden death of Mr. J. D. Collins, of Redland Bay on July 25 last. The information was received after we had gone to press for last issue, hence this belated notice. Born in England, the late Mr. Collins came to Australia at an early age, and later became an authority upon fruit culture, especially citrus. Fruit exhibited by the late Mr. Collins has consistently won prizes in Queensland shows, and his experiments in citrus culture have been of great value to Queensland growers.

Identified with many movements for the betterment of the fruit industry in the Northern State, he was a member of the first Committee of Direction in 1924. In civic and church matters his presence will be greatly missed. We extend sympathy to his wife and family.

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Ask our local agent for a copy of our hand-book, "Clean Fruit" which gives a wealth of information on all spraying matters.

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Codlin Moth and Black Spot

CONTROL MEASURES FOR APPLES AND PEARS

THE FOLLOWING are the spray programmes recommended by the Victorian Department of Agriculture for the control of Codlin Moth and Black Spot in Apples and Pears.

Apples.

Schedule No. 1.

1st Bordeaux Spray.—**Green Tip Stage:** Bordeaux, 6 : 4 : 40.

2nd Bordeaux Spray.—**Early Pink Stage:** Bordeaux, 3 : 3 : 50.

1st Lead Spray.—**Late Calyx — 85 per cent. of petals fallen:** Apply lead arsenate, 5 lbs. (paste) : 80 galls.

2nd Lead Spray.—**10-12 Days After 1st Lead:** Apply 2nd lead arsenate, 5 lbs. : 80 galls.

3rd Lead Spray.—**14 Days After 2nd Lead:** Apply 3rd lead arsenate, 5 lbs. : 80 galls.

4th Lead Spray.—Apply 4th lead spray, 5 lbs. : 80. Time of application to be determined by moths caught in lures or emergence from the bands; **or** 15-20 days after the previous lead spray.

5th Lead Spray.—As for 4th lead spray.

6th Lead Spray.—As for 5th lead spray.

7th Lead Spray.—As for 6th lead spray, if necessary, on late varieties.

Note:—

(1) This schedule should **not** be used on the following varieties, owing to the danger of russet—**Jonathan, London Pippin, Yates, Dunn's.**

See Schedules Nos. 2 and 3 for these varieties.

(2) For Black Spot control include 6 oz. Bluestone and 6 oz. freshly-slaked lime in each lead spray.

(3) A lime casein spreader may be used at the rate of ½ lb. to 1 lb., as preferred, in 80 gallons, in each lead spray.

Schedule No. 2.

For varieties liable to russet, such as Jonathan, London Pippin, Yates, Dunn's, etc., the following schedule is recommended:—

1st Bordeaux Spray.—**Green Tip Stage: Bordeaux,** 6 : 4 : 40.

1st Lime Sulphur Spray.—**5-10 per cent. Blossom (no later):** Lime sulphur, 3 galls. : 80 galls.

1st Lead Spray.—**Late Calyx (85 per cent. of Petals Fallen):** Lead arsenate paste, 5 : 80 galls.

2nd Lime Sulphur Spray. — **Petal Fall:** Lime Sulphur, 2 : 80.

2nd Lead Spray.—**10-12 Days After 1st Lead Spray:** Lead arsenate paste, 5 : 80.

3rd Lime Sulphur Spray.—**14 Days After Petal Fall:** Lime sulphur, 1½ : 80.

3rd Lead Spray.—**12-14 Days After 2nd Lead Spray:** Lead arsenate paste, 5 : 80.

4th Lead Spray.—Apply 4th lead spray, 5 : 80. Time of application to be determined by moths caught in lures or emergence from bands; **or** 15-20 days after the previous lead sprays.

5th Lead Spray.—As for 4th lead spray.

6th Lead Spray.—As for 5th lead spray.

7th Lead Spray.—As for 6th lead spray, if necessary, on late varieties.

Note:—

(1) For Black Spot control include 6 oz. of Bluestone, plus 6 oz. of freshly slaked lime, in each lead spray.

(2) For late Black Spot infection, growers who prefer to continue with lime sulphur should use same 1 in 80.

(3) A lime casein spreader may be used at the rate of ½ lb. to 1 lb., as preferred, in 80 gallons, in each lead spray.

Schedule No. 3.

For growers who prefer the White Oil programme, the following schedule for varieties liable to russet, such as Jonathan, London Pippin, Yates, Dunn's etc., is recommended:—

For varieties not liable to russet, Schedule No. 1 may be used up to and including the 3rd lead spray. This spray could then be followed by the oil sprays as provided in this following schedule (No. 3).

1st Bordeaux Spray. — **Green Tip Stage:** Bordeaux, 6 : 4 : 40.

1st Lime Sulphur Spray.—**5-10 per cent. Blossoms (no later):** Lime sulphur, 3 : 80.

1st Lead Spray.—**Late Calyx (85 per cent. of Petals Fallen):** Lead arsenate paste, 5 : 80 galls.

2nd Lime Sulphur Spray. — **Petal Fall:** Lime sulphur, 2 : 80.

2nd Lead Spray.—**10-12 Days After 1st Lead Spray:** Lead arsenate paste, 5 : 80.

3rd Lime Sulphur Spray.—**14 Days After Petal Fall:** Lime sulphur, 1½ : 80.

3rd Lead Spray.—**12-14 Days After 2nd Lead Spray:** Lead arsenate paste, 5 : 80.

Oil Sprays.

As the White Oil functions as an ovicide, it is essential that the time of application should coincide with egg-laying. Therefore, it is necessary to determine emergence and prevalence of moths by observing bands and catches in lures.

The effective ovicidal period of white oil sprays does not appear to exceed ten days.

For February oil sprays, the time of application should be as near as possible to the peaks of emergence.

1st Oil Spray.—Apply the 1st oil spray 1 : 60 at the middle to end of December if the moths are prevalent. If moths are not prevalent, this spray may be delayed until early January; but the December application is favored.

2nd Oil Spray.—Apply 2nd oil spray 1 : 60, 15-20 days after 1st oil spray.

3rd Oil Spray.—Apply 3rd oil spray 1 : 60, about 15-20 days after 2nd oil spray.

This application should be made at or immediately after, the peak of emergence of moths of the 2nd brood.

4th Oil Spray.—Apply 4th oil spray 15-20 days after 3rd oil spray. (This will probably be aplied at the end of February or in early March.)

For late varieties, 5th oil spray may be necessary.

Note:—

(1) For further protection against Black Spot, include 6 oz. of Bluestone, plus 6 oz. of freshly-slaked lime in 80 gallons, in the 2nd and 3rd lead sprays, and in subsequent white oil sprays. (The Bluetone and lime should be added to about half the quantity of water in the vat, and the oil emulsion agitated in last, adding the remainder of the water.)

(2) A lime casein spreader may be used at the rate of ½ to 1 lb. in 80 galls. of the lead spray. In the 1st oil spray, a ½ lb. spreader may be used, and ½ lb. in the subsequent oil sprays.

(3) If possible, apply the lime sulphur and lead sprays separately. If this is not possible, add the lead to the diluted lime sulphur and spreader **immediately** before spraying.

(4) Spray injury may result if oil sprays are applied within 3 weeks of a lime sulphur spray.

(5) If freshly-slaked lime, or "Limil" is used for making Bordeaux Mixture, the 6 : 4 : 40 formula becomes 6 : 6 : 40, and the 3 : 3 : 50 becomes 3 : 4 : 50. Care should be taken when employing slaked lime, because it is quickly converted to the carbonate form if left exposed to the air.

Pears.

1st Bordeaux Spray.—**Green Tip Stage (Delayed),** when maximum number of buds have brown scales (bracts) separating and tips of green folded leaves are just visible—apply Bordeaux Mixture, 6 : 4 : 40.

2nd Bordeaux Spray.—**Finger Tip Stage,** when green leaves are separated from blossom buds, which are beginning to separate; **but before white petals show.** (Note.—Odd blossoms only may be showing white petals.) Apply Bordeaux Mixture, 6 : 4 : 40.

3rd Bordeaux Spray, Combined with 1st Lead Spray.—**Late Calyx stage,** 3 weeks after fruit has formed; **but before Pears turn over.** Apply Bordeaux Mixture, 3 : 3 : 50, combined with 1st arsenate of lead spray, 5 lbs. paste in 80 galls.

2nd Lead Spray.—**12 to 14 Days After 1st Lead Spray:** Apply 2nd lead spray, 5 in 80.

3rd Lead Spray.—**12 to 14 Days After 2nd Lead Spray:** Apply 3rd lead spray, 5 in 80.

4th Lead Spray.—Lead spray 5 in 80. Time of application to be determined by moths caught in lures or emergence from bands; **or** every 15 to 20 days after previous lead spray.

5th Lead Spray.—As for 4th lead spray.

6th Lead Spray.—As for 4th lead spray.

A lime casein spreader may be used at the rate of ½ to 1 lb., as preferred, in 80 galls in each lead spray.

Note:—

This programme will apply to all varieties except Josephine and Winter Nelis, which should be sprayed as follows:—

Josephine.—Only one Bordeaux Mixture spray, 6 : 4 : 40 should be applied, and this will be at an early **Green Tip stage.** Any further Bordeaux sprays will russet this variety. Lead sprays 5 : 80 as above. Six oz. of Bluestone plus 6 oz. of freshly-slaked lime may be added to the 2nd lead spray, and each subsequent one.

Winter Nelis.—The same sprays as outlined in the 1st programme, with the exception that the 2nd Bordeaux spray **must be applied before** any **petals show pink.**

Packham's Triumph and Other Clean-Skinned Varieties.—The 1st programme will russet these varieties, and if it is desired to overcome this disadvantage, after the first two Bordeaux sprays, a 1 : 1 : 50 Bordeaux Mixture could be combined with the 1st, and subsequent lead sprays.

Growers who continue to use lime sulphur sprays are advised to refrain from mixing such material with their lead sprays.

If freshly slaked lime, or "Limil," is used for making Bordeaux Mixture, the 6 : 4 : 40 formula becomes 6 : 6 : 40, and the 3 : 3 : 50 becomes 3 : 4 : 50. The 1 : 1 : 50 becomes 1 : 1½ : 50.

It is realised that it is difficult to outline a suitable spray programme to suit all conditions; but the above recommendations it is hoped, will act as a general guide to growers, for the control of Black Spot and Codlin Moth of Pears.

Correspondence addressed to the Superintendent of Horticulture is invited.

POWDERY MILDEW OF THE APPLE.

Measures for Control.

This disease is very much in evidence in some of our chief Apple-growing districts, states the N.S.W. Dept. of Agric. Trees badly attacked by powdery mildew present a very sickly appearance and may become almost completely defoliated. The fungus attacks leaves shoots, blossom buds and fruits.

On the leaves the disease is manifested as irregular, white, powdery patches, which may appear on both the upper and lower surfaces and spread until the whole leaf is involved. The leaves then have the appearance of having been dusted with flour. Infected leaves are narrower and

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longer than normal and may become in-rolled. Later they become scorched in appearance and brittle, and are ultimately shed. Infection spreads from the leaves to the young shoots, which later on are killed, several shoots springing from below the affected area the following season.

Infected blossom buds are smaller than normal buds and are covered with the white fungous growth. Infected blossoms appear later than healthy ones and rarely set any fruit.

The following control measures are recommended by the Biologist of the Department of Agriculture:—

(1) During Winter pruning, badly mildewed twigs and terminal buds should as far as possible be cut out and burned.

(2) Spray with lime-sulphur (1-14) at spur burst, and use lime-sulphur (1-35) with arsenate of lead applications. Dritomic, atomic, or atomised sulphur may be used at all stages in the proportion of 10 lb. to 80 gallons water.

"Did you have the car out last night?"

"Yes, Dad; I took some of the boys for a run round."

"Well, tell them I've found two of their lipsticks!"

Colloidal Sulphur in Tasmania

IN RESPONSE to an enquiry, the following information has been courteously supplied by Mr. T. D. Raphael, Horticulturist, Tas. Dept. of Agriculture.

Colloidal sulphur was very generally used by orchardists during the wet Spring and early Summer experienced last year, and fairly good results were obtained with the following programme:—

Colloidal sulphur, 2 lbs.
Lime sulphur, ½ gal.
Spreader.
Water, 100 gal.

Arsenate of lead was combined with the later sprays at the rate of 3 lbs. powder and 2 lbs. of hydrated lime. This spray, or a very similar one, was also used successfully in New Zealand during the past few seasons. It is probable that certain modifications will be made here during the present season.

In regard to russeting, very little was experienced on either Apples or Pears where this mixture was applied correctly.

INSECT PESTS

Control Recommended

Two species of mites doing damage to vines are recorded in the "N.S.W. Agricultural Gazette." These are classed as Tenuipalpus and Phyllocoptes respectively, although neither has yet been specifically determined. The first-named is usually associated with the bunch, and is loosely termed Bunch Mite. The latter species is more associated with the vine foliage, the mites appearing on both the upper and the under surfaces of the leaves. Both species are extremely small and almost invisible to the naked eye.

The control recommended is to spray with lime sulphur, 1 gallon to 10 gallons of water, just prior to bud-burst. An alternative treatment is two applications of colloidal sulphur, the first when the growth is from 12 to 18 in. long, and the second about three weeks later, in the rate of 2 lbs. per 100 gals. water, with 4 lbs. soft soap added.

If desired, these colloidal sulphur sprays may be combined with the first two Bordeaux mixture sprays, but omitting the soap. Wettable sulphurs may prove as effective as colloidal sulphur, but these have not yet been tested.

The Cherry Aphid.

Cherry Aphids (Myzus Cerasi) feed on the sap of Cherry trees, and, when plentiful, cause damage to the terminal shoots and much curling of leaves. Besides this, excretion of honey dew from the Aphids may render the fruit sticky and so reduce its market value.

Control is assisted by nicotine sulphate spray, the application of which is as follows:—First application at the "pinking" stage—usually towards end September. Second application at the "Shuckfall" stage—about end October; third application—2 or 3 weeks after second application.

If a combined spray, such as lime-sulphur, is used as a fungicide at the above periods, the nicotine sulphate may be combined with the lime-sulphur, but soap should not be added to the solution, calcium caseinate, at rate of 1 lb. to 75 gals. of spray, being used as a spreader.

Arsenate of Lead Paste
Arsenate of Lead Powder
Concentrated Liquid Lime Sulphur (20% Polysulphide Sulphur).
Nicotine Sulphate 40%
Improved Spray Spreader
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Prepared White Oil
White Oil Emulsion
Ovicidal Wash (Tar Distillate).
Red Spraying Oil
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Selected Spraying Lime
Prepared Spraying Lime
"Home-Made" Bordeaux 6-4-40
"Home-Made" Bordeaux 4-4-40
Burgundy Mixture
Dry Bordeaux
Calcium Arsenate
Benzole Emulsion
Manurial Insecticide
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Black Spot on Pears

Control Measures Described by Horticultural Division of the Tasmanian Department of Agriculture.

Effectiveness of Strong Bordeaux.

Following the severe infestation of pears by spot (Venturia pirina) during the 1934-35 season, many enquiries have been received regarding a reliable spray control programme. Applications of Bordeaux have generally been recommended (having due reference to variety and district), and at the request of a number of growers a demonstration plot was established in the Sandford district.

The area chosen consisted of a block of **Winter Nelis** and **Beurre Bosc** pears which in past seasons had been very severely affected with Black Spot in spite of repeated applications of lime sulphur. Spray applications commenced as usual, at the "green tip" stage, and continued until mid-January, after which lack of rain and absence of active spot rendered further treatments unnecessary. The following table gives the strengths used and dates at which the sprays were applied:—

TABLE 1.

Variety.	Date Applied.	Strong	Weak
All Varieties	"Greentip" 28/8/35	Bordeaux	Bordeaux
Winter Nelis	"Pink" 11/9/35	6-4-40	4-4-40
Beurre Bosc	"Pink" 23/9/35	6-4-40	4-4-40
Winter Nelis	"Calyx" 8/10/35		
Beurre Bosc	"Calyx" 17/10/35	4-4-40	2-2-40
All Varieties	4th 8/11/35	2-2-40	1-1-40
All Varieties	5th 10/12/35	1½-2-40	1-1-40
All Varieties	6th 15/1/36	1½-2-40	1-1-40

Unsprayed trees were left at intervals throughout the block so that an accurate check could be maintained on the control given by spraying and a randomised selection of trees was made throughout the plots for the actual counts. Infection was first noticed on the leaves and small fruits of the Beurre Bosc at the calyx application in October, but did not appear on the Winter Nelis until November, when there was extensive leaf infection on the unsprayed controls. This spread rapidly to the young fruits in December.

Reference to Table 2 will show the extent to which the unsprayed trees were affected. The Winter Nelis, with only 9 clean fruits out of over 1,100 Pears (.5 per cent.) were worse than the Beurre Bosc. The latter gave 5 per cent. clean fruit out of a total of 1,600 Pears. Not only was the proportion of spotty fruit greater in the Winter Nelis, but the individual fruits themselves had often three or four times the area of spot per fruit.

Details of the results of the test are given in Table 2. It will be seen that the fruit has been divided into three classes:—

(1) "Clean"—those fruits entirely free from visible spot infection;

(2) "Marketable"—those having an aggregate spot of ¼ in. or less;

(3) "Rejects"—fruit having more than ¼ in. of spot.

Discussion of Results.

Probably the most outstanding feature is the high proportion of clean fruit obtained from plots receiving the full spray programmes; this was **quantity of fruit became seriously affected, and the difference between the two programmes was much less than expected; Boscs suffered more than Nelis in the present series of experiments.**

Importance of the Calyx Spray.

raised from .5 per cent. to 88 per cent. in the case of Winter Nelis, and from 5 per cent. to 81 per cent. in the case of Beurre Boscs. Where the slightly blemished or "marketable" fruit is also included, these percentages are raised to 98 per cent., and 91 per cent. respectively.

The control of Black Spot exercised by the stronger applications of Bordeaux is less definite than would be expected, the totals showing a difference of only 3 per cent. in the aggregate. Taking the variety Beurre Bosc alone, the difference is approximately 7 per cent. in favor of the stronger applications, and should this be correct the small extra cost in sprays would be amply repaid. The stage of bud development and variations in seasonal weather conditions may, however, account for this — a point which can only be ascertained by repeated trials.

It was thought that russeting might be excessive under the intensive spraying programme adopted, especially with the stronger Bordeaux applications. As it was only a negligible

The importance of the calyx spray under the conditions experienced last season is emphasised by the fact that in the aggregate only 60 per cent. of marketable fruit was obtained from trees where this spray was omitted. These were left in the "strong Bordeaux" section, and from the point of view of russeting it was evident that the calyx aplication caused the bulk of what skin injury there was present. It should be mentioned here that observations made on adjoining trees which had received only lime sulphur throughout the season were more or less free from russet, but contained more than 50 per cent. of excessively spotted fruit.

Costings.

As the programmes carried out involved the aplication of six sprays, growers would no doubt be interested to know the total cost of spray materials used. Actually the cost varied from .64 pence per gallon where the 6-6-40 mixture was used, to .12 pence for the 1-1-40 mixture. On the basis of 193 trees per acre, and assuming that an average of 1 gallon of spray per tree per application was used, the entire cost of spray materials for the strong Bordeaux programme would be 38/4 per acre at bulk rates, and for the weaker programme 24/11 per acre. These figures allow a liberal margin and, needless to add, repay the grower amply.

Summary and Conclusion.

Briefly, the experiments have confirmed:—

(1) The effectiveness of continued Bordeaux applications in the control of Black Spot on Pears.

(2) The importance, under the meteorological conditions experienced last year, of the calyx spray.

Acknowledgement is made of the helpful co-operation and assistance rendered by Mr. O. Calvert in the conduct of the experiments.—"Tasmanian Journal of Agriculture."

TABLE 2.

Spray Treatment	Variety	Pears Examined	Per cent. Clean	Per cent. Marketable	Per cent. Rejects	Per cent. Total Packed
No Spray	Winter Nelis	1,152	.5	5.5	94.0	6.0
	Beurre Bosc	1,615	5.0	13.0	82.0	18.0
TOTALS	... ...	2,767	3.3	9.8	86.9	13.1
Strong Bordeaux	Winter Nelis	1,566	87.2	9.9	2.8	97.1
	Beurre Bosc	1,247	86.0	9.2	4.6	95.2
TOTALS	.. ..	2,813	87.0	9.7	3.3	96.7
Weak Bordeaux	Winter Nelis	1,837	88.5	9.7	1.8	98.2
	Beurre Bosc	1,246	76.6	11.1	12.2	87.7
TOTALS	.. ..	3,083	83.8	10.2	6.0	94.0
Calyx Spray Omitted	Winter Nelis	1,146	11.5	34.3	54.2	45.8
	Beurre Bosc	777	64.5	15.3	20.0	79.9
TOTALS	.. ..	1,923	33.0	26.7	40.3	59.7

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DILUTION: 1 LB. – 50 GALLONS WATER.

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★ITS ANALYSIS—2 : 2 : 1 Mixture contains:

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AND ECONOMY—2 : 2 : 1 means more plant food in every bag. Compare its price and analysis with any other orchard fertiliser. . . . .

ALL FERTILISER DEALERS sell 2 : 2 : 1 for Spring application to Fruit, Vegetable and Garden Crops because it's so—

Effective and Economical

H 15/36

FROST PREVENTION.

(The Editor, "Fruit World.")

Sir,

After many discussions and conferences, it is now generally agreed that direct heating is the only effective method for frost prevention, and that either oil burners or briquette heaters should be used.

In officially supervised demonstrations at Gonn Crossing in 1934, and at Cardross in 1935, a quick response with a consistent and prolonged heating effect was obtained by using 50-60 briquette heaters per acre, and protection up to 7 deg. F. was maintained. This is 100 per cent. safeguard against any frost injury. More recent tests at Merbein have confirmed the effectiveness of briquette heaters, although delay in lighting prevented an immediate temperature rise.

All experiments proved the steady and continuous maintenance of safe temperature conditions with briquettes in comparison with unnecessarily rapid rises followed by equally steep and continuous declines when using oil burners. The only object of frost prevention is to keep temperatures above the danger point for the full period of the frost. This has been successfully achieved by the use of briquettes.

Moreover, whilst the number of oil heaters required is still doubtful (up to 120 open pails per acre have been used, and 80-100 are recommended in South Australia), 50-60 briquette heaters are definitely sufficient. Even on a comparison of equal numbers of heaters, as given in the recommendation of the A.D.F.A. conference, costs for oil are 37/6 against 15/8 for briquettes. This ratio corresponds to the cost of heat units available in the two fuels, and does not even allow for the more efficient combustion and more effective radiating properties of the briquette heaters.

With proper care and attention to weather forecasts, no grower need fear damage from frost, if he has briquette heaters in readiness. If conditions are studied properly—and with communal efforts now being made, this will be easily accomplished—it will be very rare that heaters are lit unnecessarily. Even if a frost should not continue and the heaters are no longer required, the cost of oil after 1½ hours burning (and the burning period is never shorter), equals that of the full contents of briquette heaters. Besides, it is always possible to save an appreciable part of briquettes unburnt.

We definitely disagree with the opinion proferred that frost prevention is solely based on air heating. It is true that this is the case with oil, but the high surface temperature of the briquette heater radiates to the surrounding plants, and this heat is applied on the most valuable spot. In all tests to date, air temperatures only have been considered and radiated heat has not been measured.

The issue of orchard heating has been rather clouded by a surfeit of unco-ordinated data and premature conclusions. We feel that the formulation now of definite recommendations, based on tests, which were proclaimed to be preliminary, is not justified. The sum total of all data collected in experiments over the last few years prove that briquette heaters will definitely afford better protection and at a much lower cost than any other known means.

Yours truly,

(Signed) EGAN & WILLIAMS.

Oakleigh, Sept. 2, 1936.

Fertiliser Trials on Apple Pear and Peach Trees

Tests with Nitrogen, Phosphoric Acid and Potash

AFTER SEVERAL YEARS of manurial tests, the following information has been furnished by Mr. Rodney Fowler, manager, Blackwood (S. Aust.) Experimental Orchard.

Fertiliser Trials on Apple, Pear and Peach Trees.

These trials were set out in 1908 to test the relative values of various fertilisers and combinations of fertilisers on the growth of fruit trees and the production of fruit. The soil is of good average coastal soil quality. Before the tests were started, analysis showed it to be low in phosphoric acid and lime, but fairly well supplied with nitrogen, and, in some cases, better than average in regard to potash.

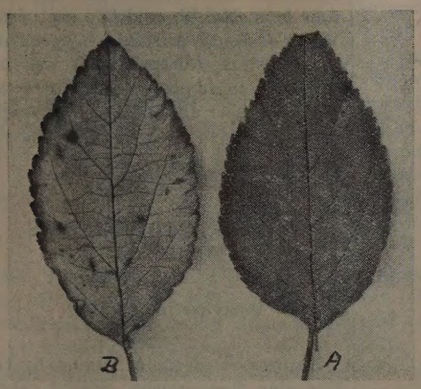
1. Nitrogen appears to be the limiting factor in regard to satisfactory growth and cropping.

2. Phosphoric acid applied alone has not appeared to have had marked effect, either on the growth or the cropping habit of the tree.

3. Phosphoric acid, nitrogen, and potash, in combination result in increased vigor in the tree, and the production of more and better quality fruit.

4. Nitrogen, combined with phosphoric acid, would appear to give the most consistent and satisfactory results.

5. Nitrogen, combined with phosphoric acid, or with phosphoric and potash, materially assists in the production of fruit with varieties of Apples which normally produce some fruit in the "off" year.



Nitrogen deficient leaf of yellowish green throughout growing season (right), and bright yellow at defoliation (left)

(Block courtesy Victorian "Journal of Agriculture.")

The quantities of fertilisers applied at first were relatively small, but as the trees came into bearing, the amounts were progressively increased —super. from 1¼ lbs. to 2½ lbs. to 3½ lbs. per tree; sulphate of ammonia from 5 ozs. to 2 lbs. to 3½ lbs. per tree; sulphate of potash 5 ozs. to 1½ lbs. per tree; stable manure ¾ cwt. to 1 cwt.; lime, 2½ lbs. up to 7 lbs. per tree. The last increase was made in 1930, so that the heavy dressing has been applied for six years, and in addition, instead of 36 per cent. super, 45 per cent. is now used.

Unfortunately, in the lay-out of this experiment, of the three main plant foods, nitrogen, phosphoric acid, and potash, phosphoric acid applied in the form of superphosphate was the only one tried out singly, the others in the form of sulphate of ammonia and sulphate of potash being used in combination with each other, or with superphosphate and lime.

Growth measurements were made for a number of years of all annual extensions, together with increase in trunk girth, the latter records being continued to the present time. Crop data has been recorded in export grade sizes for some years as a guide to size and quality of the fruit produced. In the early years of the trials, when the amount of fertiliser was small, the results were very inconsistent and conflicting, and no definite recommendations could be based on them, but during the last few years, with heavier dressings and heavier crops, a few outstanding differences may be noted.

The above can only be looked upon as general deductions, based on the recorded data and general observation.. The number of units in each test is only three, and there are no replications, so that modern statistical methods of examining data and interpreting results cann ot be employed.

CITRUS NEWS & NOTES

CITRUS GROWING

Bud Selection

IT is conceded on all hands that efficiency in production and distribution is all-important to profitable operation, or even the continued existence of the citrus grower nowadays, writes I. B. Suryieh in "Californian Citrograph."

It is also generally known to the many that proper location, good soil type, adequate fertilisation, timely irrigation, frost protection, disease and insect control are all important. They are, so to speak, essential stones in the arch that bridges successfully between the soil and the market. There are farmers that observe all these cardinal points, and yet their groves, as judged by the fruits on the trees, do not proclaim them a success.

After all, the Biblical saying is the criterion in this case. It says: "By their fruits, ye shall know them," and some of these otherwise very well cared for groves have here and there unproductive trees of little fruit, rough fruit, small fruit, flat fruit, and fruit distorted in the seemingly endless number of ways, which an aberrent type citrus tree is capable of producing. The pity of it is that this disappointment in results creeps in unintentionally. Apparently, everything was done in good faith with the best of intentions, but the results are not up to what was expected.

The difficulty may be attributed to innocent ignorance of the complex nature of the fruiting propensities of citrus trees. Many farmers are no doubt still of the belief that buds are buds, and they will come true to the variety from which they are taken. There is just enough truth in this statement to put a grower off his guard, and to make him willing to buy, at the best bargain price possible, citrus stock for setting his grove, provided he is assured that it comes from a well-known grove that has a reputation for good yields of general good quality fruit.

This word "general" is the cloak that hides the source of trouble. For in these groves there are generally trees that are off-type variables — that these off-type variables often lure the nurseryman to them, for they offer good budding wood, while what we should be seeking is bud wood from heavy fruiting trees of set habits and types. These do not offer showy bud wood, and are as often as not passed up by the nurseryman looking for bud wood in favor of the other type. The nurseryman may do this innocently; probably, with the belief that the tree producing wood this year will probably be producing heavily of fruit the next.

BOUNTY EXTENDED ON CITRUS TO ALL COUNTRIES.

An announcement was made by the Assistant Minister for Commerce on August 21, that whereas formerly the bounty of 2/- per case was only applicable to citrus exports to Great Britain, the Commonwealth Government has now decided that the bounty will be allowed on exports to all countries, with the exception of New Zealand and the Mandated Territories. Mr. Thorby stated that it was hoped that this concession would stimulate the development of trade with Canada, the East and ports served by the English mail steamers.

NEW MANDARIN

The New Mandarin variety "Clementine," from Algeria is being closely observed by the N.S.W. Department of Agriculture as a promising type.

PICKING ORANGES

Care Necessary. A Novel Method from Hawaii

Even though citrus fruits may not show blemishes occasioned by bruises until some time after picking, actually the oil cells in the skin are very easily damaged, says the "N.S.W. Agricultural Notes" for July. It is through such injuries to the skin that decay germs, such as those causing blue mould, make their entrance. Hence great care is necessary when picking and packing for market.

Gloves should be worn or the fingernails kept extremely short, and the fruit should be picked or clipped with the button adhering, but no length of stalk that will come into contact with and puncture other fruit. The fruit should be placed right into the picking receptacle, and not dropped in from the top, and the same care should be exercised in all subsequent handling between picking and packing.

Though paper lining, by checking the circulation of air in the case, may tend to produce conditions favorable for the development of blue mould, the rough timber of the unlined cases injures the skin and allows infection by the disease, so that lining-paper is an advantage when packing citrus fruits.

A novel method of picking Oranges is used in Hawaii. Long "stockings" are used as chutes to convey the fruit from the picker on the ladder to the boxes on the ground. The stocking has an 18-in. diameter mouth, with a cane hoop inserted in it, and tapers in diameter downwards. The Oranges thus "dribble" down the stocking into the box without injury. The stocking may be made 20 feet or so in length, dependent upon the height of the trees. A hook on the cane mouth enables the stocking to be hooked on to a rung of the ladder or into the belt of the picker.

Citrus Advisory Council.

Formation Decided Upon.

At a conference held in Adelaide on August 27, it was decided to go ahead with a proposal to form a Citrus Advisory Council. The conference was attended by representatives of all States under the Chairmanship of the Assistant Minister for Commerce (Mr. Thorby), who stated that the Commonwealth would not consider any assistance to the citrus industry, other than that already approved, unless some organisation was established that would effect greater efficiency in the industry.

He advised the establishment of a Council that would unite the industry and be able to speak with authority upon its many problems. At present the Commonwealth was not prepared to consider a bounty for export Oranges.

Mr. W. J. Black, President of the N.S.W. Citrus Growers' Defence Association, opposed the proposal of a Council and any suggestion of a Control Board, also a referendum to amend Section 92 of the Commonwealth Constitution.

The conference agreed that the proposed Council should consist of one Commonwealth Government members, four from N.S.W., and two each from Victoria, South Australia, Queensland and Western Australia. It was not proposed to impose a levy to cover export losses, although a levy might be necessary to cover the working expenses of the Council.

A NEW RED GRAPEFRUIT.

"Redflush Seedless."

Said to be a bud sport from a Pink Marsh, Texas is evolving a seedless Grapefruit that has red flesh and a slightly red skin. The new variety has been fruited for three consecutive seasons, and has shown no variation from type. It has now been put on the market, and has been received well.

One-year buds on three-year sour Orange roots have been used in propagation by Dr. Webb, of Hidalgo County, South Texas, and the new variety is named Webb's Redflush Seedless. It is anticipated that a seedless Grapefruit with a pleasing red-colored flesh will become very popular.

CITRUS PRODUCTION IN VICTORIA.

Decrease in Quantity.

Figures released in August by the Victorian Government Statist show that the production of citrus fruits in 1935-6 decreased by 36,683 bushels from the production of the previous year. The following figures are interesting:—

	1934-5.	1935-6.
Number of growers .	2,374	2,425
Oranges produced (bushels)	626,754	604,537
Grapefruit	12,571	13,753
Lemons, Limes, etc .	220,737	205,089
	860,062	823,379

The varieties contributing to the above total quantities in 1935-6 are given as follows:—Navel, 373,217 bush.; Valencia, 156,813; Med. Sweet, 14,629; other common, 29,697; Mandarin, 15,576 and Seville, 14,605. Other common was the only variety credited with an increase over the previous year. The Mallee produced 332,752 bushels Oranges and 7,013 bushels Grapefruit, and Northern Districts are credited with 266,609 and 6,680 bush. respectively.

LEMONS IN NEW ZEALAND.

A survey of the citrus districts of New Zealand, completed last year, shows that there are 85,973 Lemon trees planted, of which only 50 per cent. are in bearing. The average production of the trees that have borne fruit, on the 1934 report, is 3.89 bushels per tree. This average, however, is obtained by recording only commercial orchards. If all trees were averaged this rate would drop. It is estimated that 3 bushels is a fair average expectation.

Astounding losses through Codlin!

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Orchardists everywhere are keenly interested in the perpetual fight against their arch enemy—the Codlin Moth. Although there are no statistics available which indicate the yearly loss to Australian orchardists through the ravages of this pest—there is no doubt that it amounts to a very large sum.

The wise grower who sprays his orchard with "AERO" brand Arsenate of Lead proves that this finest of all Arsenates ensures the best possible protection, and, as a result, he collects the maximum return from his orchard by being able to market sound, Codlin-free fruit.

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Port Huon Fruitgrowers' Co-op. Association Ltd.,
Davey Street, Hobart.

N.S.W. Citrus Report

Conditions in the citrus industry are indicated as follows in a report received early in August from the N.S.W. Dept. of Agric.:

It is reported that Valencias are mostly small in the Hills district, and color ranges from good to poor. In the Windsor locality, coloring is satisfactory, and good quality packs should be available.

Considerable quantities of Mandarins expected to be available during September. Large quantities to be cleared from Windsor groves. Generally, heavy consignments are coming forward as this fruit is inclined to deteriorate after maturity is reached.

There is a fair crop of large-size Lemons in groves in the Hills area, and numerous sales to factory buyers are reported. The second crop is fair, and maturity likely to be variable, indicating an extended Summer harvest.

At Leeton, a slight drop of Navels took place following recent substantial rains. The appearance and size of the good to heavy Valencia crops is very satisfactory.

In the Curlwaa district Valencias are well colored, and development is satisfactory. There is a heavy crop of Lemons in sight, but the area planted is small.

Mr. Tom McMahon, of The Slopes, near Kurrajong (N.S.W.), has approximately 40,000 young citrus trees in his nursery. They comprise Washington Navels, Valencias, Mandarins, Lemons, and Grapefruit. Mr. McMahon has had 45 years' experience as a nurseryman, and at various times has represented the citrus industry at interstate and other conferences. He recently received advice from New Zealand that a large consignment of his stock, which was planted in the North Auckland district, had in every instance proved strictly true to type, healthy, and prolific bearing. Mr. McMahon is of opinion that within the next ten years New Zealand will be self-supporting in the matter of Oranges, which grow well around Auckland. Mandarins, however, do not appear to thrive in the Dominion.

Victorian News and Notes

SOUTHERN VICTORIA FRUITGROWERS' ASSOCIATION

A MEETING of the Executive of the Southern Victoria Fruitgrowers' Association was held at Box Hill on July 30, 1936. There were present Messrs. F. G. Beet (President), W. A. Thiele, L. Pepperell, L. Webb, E. Noonan, F. C. Pyke, G. G. Miller, and Secretary. Apologies were received from Messrs. E. Weitnauer and K. D. Witton, Geelong.

Correspondence.—From Mr. H. M. Wade, enclosing a letter which appeared in the Press dealing with the Queen Victoria Market. Received. From Mr. E. W. Thompson, Secretary, Retail Fruiterers, stating that he was calling the Victoria Market Council together on August 26 at 7.45 p.m. at the Temperance Hall, Melbourne.

Grading Regulations.—Mr. W. A. Thiele reported on the Apple and Pear grading regulations as dealt with at Interstate Conference, Sydney, July 9 and 10.

It was resolved that Mr. Thiele be empowered to represent the Southern growers at the meeting of the V.F.M.A., and to report back to the Executive.

Several members spoke in appreciation of the amount of time given and the work carried out by Mr. Thiele on behalf of the industry generally.

Opening Hour at the Victoria Market.—Following on a resolution carried at the annual meeting it was resolved that a combined meeting be held in the Temperance Hall, Melbourne, Thursday, August 20, at 8 p.m., and that Messrs. Beet, Webb, Noonan and Miller represent the Southern growers with representatives from the market gardeners and two from the following:—East Burwood, Doncaster, Diamond Creek, Red Hill, Geelong, and Wandin berrygrowers.

Field Day.—Resolved that Mr. Beet's offer be accepted, viz., in placing his orchard at the disposal of the growers for experiments to be carried out.

In connection with research work, it was resolved that the Department be aproached with a view to having the Southern growers represented on any Committee formed for experimental work in the Southern Districts.

Apples from New Zealand.—Mr. F. C. Pyke submitted a letter he had drafted for presentation to the Minister for Customs, setting out that owing to the low, unpayable prices for Apples overseas during the past three years, and more especially this year, growers must look to their own markets, and that they viewed with alarm the fact that Apples from New Zealand were being placed on the Sydney market at the present time. Letter endorsed.

Lengthy correspondence was received from the Dept. of Agriculture dealing with Apples and Pears shipped overseas. In most cases the packing and grading and the condition of the fruit generally was highly commended, but prices in many shipments were disappointing, more especially for Apples.

Research Work at Doncaster.—Mr. Thiele kindly placed his orchard open for further experimental work. It was resolved that £60 be passed as compensation for work and labor for the past twelve months.

SHEPPARTON.

Our S.P.C. Canenry is now making further extensive additions to its already large expansion of buildings—it is already the largest cannery in the British Empire, and its products are well known in the markets of the world as being of a quality that is unsurpassed.

Further plantings of canning and export fruits are taking place—many bundles of fruit trees from the southern district nurseries arriving at the railway station.

Losses owing to Brown Rot and the Oriental Peach Moth were not as bad as the previous season—when some growers sustained losses up to more than 50 per cent. of their crop (as indicated by enclosed snapshot). More losses were sustained from Black Spot on Apples and Pears—which had not hitherto caused any serious trouble in the Goulburn Valley—but Black Spot has now become a menace and more thorough methods in spraying will have to be adopted to hold it in control, especially in moist seasons. Infestations have gradually been getting worse—it is only within recent years that it has caused any trouble in this district, but now growers are advised to spray three times early in the Spring to hold it under control.

Export Pears do well in this district. Packhams Triumph is the variety most planted, and yields fruit of a quality unexcelled in the world. I travelled through Southern Europe in 1930 and I saw no Pears that could compare with ours. Josephine and Winter Nelis are also planted, and a few Doyenne du Comice, which, though a first quality Pear, does not crop like Packhams.

I enclose a snapshot of a Nickajack Apple tree which gave a yield of 35 cases last season—1934 and 1933 it yielded 32 cases — both seasons the same (waste excluded). In 1932 its yield was 30 cases. That was the first year I kept a record of it. I had been making some experiments with manures round the tree.

I also enclose a couple of snapshots of young Packhams Pears. (It is the same Nickajack Apple tree in all the snaps only taken different season, 1932-1936.)—C. J. Nash, Shepparton East, Vic.

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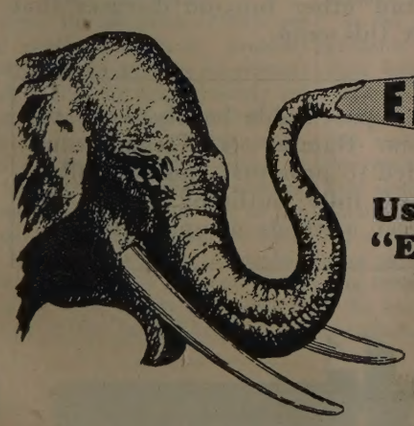

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Extract "BETTER FRUIT," U.S.A., February, 1934: "Idaho Spray Programme for Codlin Moth Control, 1934," by Dr. Claude Wakeland, Department of Entomology, University of Idaho. Experiments in the State for the past six years have shown that LEAD ARSENATE is the best, as well as the most economical insecticide that we have tested for Codlin Moth control. Entomologists are agreed that there is no substitute for Lead Arsenate that can be recommended to the public.

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Tyabb Co-operative Trading and Cool Stores Co. Ltd.

A Successful District Organisation.

THIS is a successful district organisation in the Mornington Peninsula. It has a membership of 120, and caters for its members in all branches of the industry. Departments include cool storage, packing house, shipping and trading.

The cool store has a capacity of 40,000 cases and about double that number are cooled during each season. Operations commence with Apricots and Plums, then follow on with Apples and Pears. There are eight chambers in the store, four of which are under the cold air system, and four under direct expansion. The latter system is found to be an advantage over the former when the fruit is not quite ready for market.

The packing house, which has an area of 100 ft. x 60 ft., is well equipped, and during the season a large staff is employed packing and grading shipments for overseas and interstate markets. The fruit is put into bins and from here it is conveyed through a wiping machine, then on to a sorting table, which allows the fruit to be sorted into five grades, namely, Extra Fancy, Fancy, Good, Factory, and Reject. The Ex. Fancy, Fancy and Good are then conveyed by moving belts, where they are sized, and after being packed are placed on gravity conveyors and taken to the lidding press and wire tying machines.

The packing house is divided into three compartments, receiving room, case making room, and main packing and despatch room.

A feature of the company is the organised shipping of growers' fruit, which is forwarded to markets under one brand, known as Tycos brand.

The directors of the Tyabb Co-operative Trading and Cool Stores, viz.: H. J. Willoughby (Chairman), J. D. Grant, W. P. Mair, L. G. Cole, V. Borley, F. C. Renouf and W. P. Hutchinson, are gratified with the progress made under their directorship, the managership of Harry Denham, assisted by Miss Forestal (the Secretary), and Wally Shepard, the engineer in charge.

TYABB DISTRICT NOTES.

Varieties of Apples grown in the Tyabb district are Jonathans, Rome Beauty, Tasma, Statesman, Granny Smith and London Pippin. Jonathans predominate, in fact, it has been stated that the name "Tyabb" is a misnomer, and should be "Jonathan." The common greeting between growers in Tyabb is "How are the Jonnies"

Varieties of Pears grown are Winter Cole, Josephine, Beurre Bosc, Packham's Triumph, Broom Park, and Keiffers Hybrid. Since the advent of cool storage, Broom Park has become popular, particulraly for Northern markets.

The indications are that growers in the district are now cutting much harder than they did ten years ago. It is considered this has a great influence on quality and color, and helps to stop the falling of the fruit, as well as giving uniformity, which is so necessary for export markets.

Heavy crops of green stuff are noticeable where proper cultural and manurial operations have been carried out, but the heaviest growth appears to be where poultry manure has been applied, but, of course, as there is not sufficient of this manure available, other means have to be adopted.

The ploughing and manuring of the ground are important factors, and in many cases it is necessary for each grower to experiment for himself on his own property. Even on the Mornington Peninsula situations and conditions of soil vary considerably, and different manures are required to suit particular soils, and time of application is also important.

Orchardists and market growers in this district appreciate the value of careful drainage, and many of the properties have been pipe drained. Others have large open cross drains, not too far apart, well scooped out.

The trees are kept on well-crowned lands with an open furrow between each row. Shelter belts are very important, and the recent cold, heavy winds have convinced growers of the necessity for adequate shelter. Many fine pines were sold to saw millers in the past, and those who did so miss the shelter and are replanting.

Tomato Leaf Mould

After a very severe infestation of Tomato Leaf Mould (Cladesporium Fulvum) which played such havoc with last season's crop, South Australian Tomato growers will be interested to learn that Messrs. Ramsay and Treganowan Ltd., Melbourne, distributors for Imperial Chemical Industries Pesticide Products, have made Shirlan AG available through their Adelaide agent, Mr. J. Prideaux, of Ackland-street, Adelaide.

In introducing Shirlan AG to South Australian Tomato growers, Messrs. Ramsay and Treganowan Ltd. advised that growers were not to take it for granted that if they used Shirlan AG they would have crops 100 per cent. free from Leaf Mould, but intimated that research stations and practical trials had proved Shirlan AG the most efficient fungicide for the control of Leaf Mould, owing to the fact that it will not damage the most tender foliage, if used according to directions, and quoted publications from Cheshunt Experimental Station, England, and the Cawthron Institute, New Zealand, to show that if Shirlan AG was used as a preventive for Leaf Mould, at regular intervals as recommended, growers would hold the Leaf Mould in check sufficiently to allow the third and fourth clusters of fruit to mature and ripen, thus bringing a crop that would otherwise be destroyed to marketable standard.

South Australian Tomato growers should be very thankful that they have a research station of the calibre of the Waite Institute in their State, as Mr. Adam, plant pathologist of the Waite Institute is making a very intensive study of Leaf Mould and its control, and his advice in individual cases, and in public lectures, has proved of immense value to growers.

The Fungicide For Tomato Leaf Mould

Tests carried out in English and New Zealand experimental stations have showed SHIRLAN AG to be definitely effective in combating Tomato Leaf Mould (Cladesporium Fulvum) and other fungoid diseases that affect this crop.

If SHIRLAN AG is not procurable locally write to the Distributors, Messrs. Ramsay & Treganowan. Enquiries will be attended to promptly and carefully, and literature forwarded fully outlining results of experiments and correct methods of application.

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The Australian Apple Industry....

Present Day Problems and Prospects Discussed

Limited Overseas Markets and New Competitors — Improved Standards and Creation of Empire Council to Preserve Overseas Trade — Advertising to Increase Local Consumption — Utilisation of By-Products.

Position Warrants Serious Consideration, but United —— Progressive Action Will Solve Difficulties. ——

(By Geoffrey W. Brown, President Victorian Fruit Marketing Association, and Herbert W. Soothill, A.I.C.A., A.I.I.S., General Manager Producers' Markets Co-op. Ltd., Perth, W.A.)

Present-day problems confronting the Australian Apple industry are discussed in the following article, compiled jointly by Messrs. G. W. Brown and H. W. Soothill.

The difficulties of a contracting overseas outlet are dealt with, including a statement of the efforts being made to retain our overseas markets. Other matters involved are the developing of the local market by means of educational advertising and the seeking of new methods for by-products.

[This article is commended to all thoughtful growers, and correspondence of this subject from readers would be welcomed.—Ed., "F.W. & M.G."]

NOT VERY MANY YEARS AGO the Australian Apple industry was generally thought to be capable of indefinite expansion. Although many of the underlying causes are not understood, the position today is quite different. Perhaps it is worth while having a look at this industry, for it is quite important.

When the Apple grower faces a problem, he may face it alone, but he inevitably touches the welfare, not only of his fellow growers, but of a host of other sections, both of this and other communities.

Roughly, one half of the crop is sold abroad. Prices naturally vary very greatly in relation to variety, quality, size, season, and especially the circumstances of the market. Similarly, many items of growers' costs vary in the different States, and especially in relation to situation, although overseas freight to Europe is the same from all parts of the Commonwealth. An example, however, may be taken to indicate these aspects on general lines.

Costs and Prices.

A gross British price of 10/- per bushel sterling (which is probably well ahead of the average experience) will, after allowing approximately 1/6 per bushel for British landing and selling charges, etc., produce aproximately 8/6 per bushel in sterling, or say 10/8 in Australian currency. Overseas freight absorbs 3/4 to 3/6 per bushel sterling, or aproximately 3/11½ or 4/1½ per case (Australian currency)—that is, 33 per cent. of the gross price cited, almost two-thirds of the value of the packed fruit at the ship's side, and over 100 per cent. of the growers' nett return for the fruit as shown hereunder. This leaves a balance for the cased fruit at ship's side of aproximately 6/6 to 6/8 (Australian).

But Apples do not grow in neatly packed boxes on shipping wharves.

Before they get there the grower has to meet costs and charges for picking, packing, cases, packing material, carting, and in many instances rail transport and cool storage; in addition, handling, stacking, wharfage and agency charges, etc., have to be provided.

It is impossible to generalise accurately in these respects, as costs vary in the different States, and in relation to situation and other considerations, but the total of these items may be taken as ranging from 2/3 to 4/- per bushel. A London price of 10/- (or 12/6 expressed in Australian currency) will therefore bring the grower, say, 2/6 to 4/3 per bushel for his bare fruit on the trees, the balance going to cover the costs of harvesting, preparation, transport, distribution and other essentials of presenting the fruit in good order to the purchaser abroad.

Two features of this rough analysis may well be noted. Firstly, that exchange represents approximately 1/6 (nett) of the return.

Secondly, that almost the whole of any reduction in the British price cited is reflected in the return for the fruit, as practically every other cost is a fixed one.

This position has, for purposes of analysis, been shown in respect of Apples sent on consignment. **In practice a very big proportion are sold by growers F.O.B. or F.O.R., and any losses then fall upon the purchaser, although necessarily reflected in average future offers.**

Is the grower's share too small? Probably it is, and his efforts for more economical service are not unreasonable. It may be admitted that reduction can only be marginal, but that margin is meaning solvency or the reverse in many instances to-day. This position is recognised by the Commonwealth Government in granting a bounty (4d. per case in 1935) **as a partial offset to the high shipping freights.**

We have looked at a balance which has reached the grower, but it is not his. Few primary industries need more attention. Constant cultivation, spraying and countless other operations all are heavy costs to be met if the fruit is to reach the box, and yet when every care is taken, every measure of application assurred, nature has a perverse way, not only of withholding her bounty, but of destroying the promise she has put forward in the Spring.

£10,000,000 Invested.

These questions, and the fields of activity they call for quite outside the orchard, have been of concern in respect of over

10,000,000 Bushels

of Apples in almost every year for some time past. The orchard investment alone is probably quite £10,000,000.

These things alone may appeal more to the economist than to the public, but the real concern is the restoration of the outlook, and the creation of the welfare of quite a substantial number of good type members of our community; in the last analysis their welfare bears, too, upon the infinitely greater number of people who serve this industry with all or part of their own occupation in the course of allied pursuits.

Shall we therefore look a little deeper?

Does this further search bring us again to that oft-discussed barrier of "economic depression" at the face of which so many discussions may be found lying abandoned. It does, but if we travel there only we shall not achieve an understanding.

Much of the

100,000 Acres

now planted to Apples in Australia produces Apples well. Thus long ago enough were grown to supply Australia. Attractive fruit arriving out of season found a ready market in Great Britain, and subsequently on the Continent of Europe. Splendid! Australia must take full advantage of this tremendous outlet; with such vast populations to serve it surely can have no limit, for Australia then had a virtual monopoly of supplies for a good few months. What a pity that we must wait seven to ten years to swell our production, but swell it we certainly will, with such a prospect of turning our lands to account! But were those new markets very unlimited? Were they not always potentially capable of qualified absorption only?

But our Commonwealth is not a business, it is a community, and we tend to reason individually, not collectively. So it is that we have topped the 10 million bushel mark in production.

Only from bitter experience have we found that the United Kingdom, even with a new measure of prosperity, can absorb less than 5 million bushels in our season, and almost one-quarter of this parcel has become available from our sister in the Southern Hemisphere, the Dominion of New Zealand.

True, we might not yet have been forced to these reflections but for other circumstances. A steady surge of rising costs has limited our overseas outlets to high-priced markets. Conditions in Europe have reduced very seriously useful and developing outlets on the Continent.

Conditions in our own country have been reflected in adverse local market experience. So it comes about now that such greatly increased production has been attained it threatens to ruin the outlook for those areas we had originally, as well as for those we planted so optimistically and thoughtlessly.

But is there no way around this problem? Has nothing been done? Much has been done—a great deal more remains to be done, for only co-ordinated effort pressing for remedies in every reasonable direction can expect to achieve success.

Export to U.K.

AT ALL TIMES the principal outlet for Australian Apples has been in Northern Europe, the United Kingdom being easily the most important, although the Continent has been a very valuable destination.

Perhaps we should discuss the United Kingdom separately from the other countries of Northern Europe.

It will be obvious that Australian Apples reach these markets in the reverse season to those grown in the Northern Hemisphere. This, then, is the basis of Australian export to those countries. Competition arises, firstly, from

British Apples Cool-Stored.

to be sold early in the year when the first Australian shipments are arriving. This aspect has not been very significant until recently. Britain is now producing steadily, and rapidly increasing quantities of Apples, and has been experimenting very successfully in the long storage of many of the better varieties. Such storage permits of British Apples being placed on the market concurrently with the first arrival of Australians.

The American Crop

comes in, of course, after the Australian crop has been placed on the market, but a very significant measure of competition arises from this source also, as American late Apples are held in store for sale during the late Winter and early Spring, and again clash with Australian arrivals; these supplies have a very serious adverse effect on Australian Apple realisations.

Competition arises also in a very great measure from other varieties of fruit grown in Great Britain. The absorption of Australian Apples is further retarded by Summer fruit arrivals from the Channel Islands, and from countries such as Holland, Spain, Portugal and Italy.

Another Source of Competition

is that of Oranges arriving, especially from Spain and Portugal, with rapidly increasing quantities from Palestine, and also—later—from South America and South Africa.

The Australian marketing season in Great Britain extends, broadly, over the months of April, May, June

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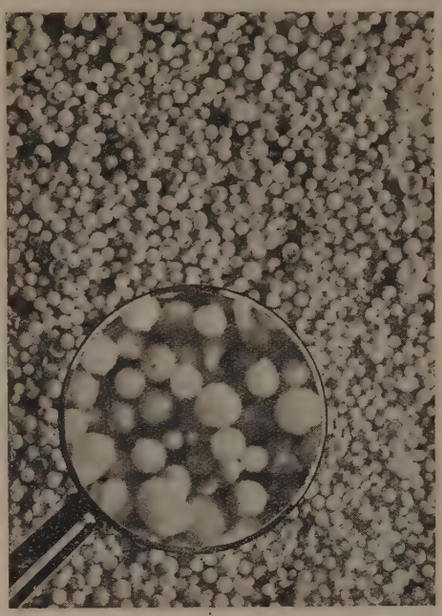

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There are 8 ways in which the FORDSON will save Time and Money in Your Orchard:

PLOUGHING	SPRAYING	HAULING
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This All-Purpose Tractor is Pounds Lower in Price Than any other competitive make of Equivalent Power.

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There is a Plow for every Type of Crop and every Kind of Soil to suit the Market Gardener, the Berry Grower and the Orchardist

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The ENGLISH FORDSON (rated at 14-26 H.P.) Supplies All the Power Required on Any Orchard

and July. The fact that Australia has the "tail end" of the season has a definite influence upon sales possibilities.

It will be recognised that there has been a definite tendency for reduced demand in Great Britain, arising from the general condition of trade in that country, relatively to the period up to 1929.

But even before that fact became very apparent, Australia was suffering definite reductions of values obtainable on the British market, and probably two reasons can be offered for this state of affairs.

The first is that we had not been as careful as we should have been in maintaining quality, and very little indeed had been done to improve the average quality of the Australian pack.

The second is that the quantities going forward were in many years definitely in excess of the possibilites of market absorption.

It was this set of circumstances which faced the Australian Apple and Pear Export Council, when that body set out in an endeavour to improve the conditions of marketing abroad. The Council is constituted from growers' and shippers' organisations in all States. It is a voluntary body, but has been accepted as the official voice of the industry in this connection, in respect of matters such as the framing of the departmental regulations referring to export and also by the ship owners in connection with various freight and space allotment questions. It is thus required to substantiate the reasonableness of its submissions, insofar as they require implementing under the existing legislative powers of the Commonwealth, or by virtue of the shippers' arrangements, as the case may be.

Quality and Quantity.

The two principal means followed in the endeavour to improve the prospects for Australian Apples on the British market have been in relation to the two points mentioned—of quality and of quantity. The means adopted in order to improve quality have been in several directions.

Firstly, several of the **varieties** not really suitable for export, or not favored on the British market, have been eliminated from the export list, and their export prohibited.

Next, the **size grades** which may be exported have been limited to those most suitable in relation both to quality on arrival and also in relation to the type of demand.

Thirdly, the requirements as to **quality** and blemish have been defined on sound lines.

And, lastly, **color grading** has been introduced so as to ensure that parcels shall be as fully as possible of the type required and competitive with the types reaching the market from other countries.

Some further endeavours towards still better standards, more fully comparable with those of competitive countries may yet be hoped for in respect of limitation of varieties; **the stricter enforcement of maturity requirements and in standardisation and expansion of inspection services.**

These restrictions have of themselves done a great deal to check excessive exports, but the total quantity still available for export within such improved standards as administered has been found to be in excess of the capacity of the market concerned.

A very careful survey has been made of the possibilities of market absorption in the United Kingdom, and the figures provided from various independent sources have been checked, one against the other, with the conclusion that under the present conditions **the aggregate crop which can safely be moved from Australia to the United Kingdom market (inclusive of supplies from New Zealand), ranges somewhere between four million and five million bushels per annum.**

Steps have therefore been taken to make certain that in any year the total exported shall be related as accurately as possible to the total which can be absorbed at something like reasonable prices.

For the 1935 season, this quantity was estimated at a total of just over 4,500,000 cases, and after very complete re-surveys a similar total was agreed upon for the 1936 season.

At the same time, if these measures should prove as successful as has been hoped, it should be possible to expand gradually the total shipments, and to establish the reputation of the Australian article so thoroughly that if eventually any definite measure of expansion becomes possible it can be built up from a definitely sound foundation.

The experience of the United Kingdom market in the 1936 season has, however, been very far from encouraging, despite all the measures designed for improvement.

Ottawa Preferences Lost.

The work of the Council also extended to the Ottawa Conference, where the President (Mr. J. B. Mills) was appointed eventually to act as adviser to the Australian Delegation in relation to this and other commodities. As a result of that Conference the British Government undertook to impose a duty on imported apples, which duty might have been looked to mainly to favour the Dominions as against the United States of America.

Unfortunately, almost immediately this arrangement was carried into effect, the variations in exchange and various other matters affecting the United States export to Great Britain were altered in such a way as virtually to extinguish the preference which it was thought had been usefully secured through the Ottawa Conference. It is on these grounds that submissions have been justly made for a variation of the Ottawa arrangements, with the object of bringing the facts into line with the intention so far as a measure of effective protection is concerned.

The work contemplated and initiated in relation to the British market goes a great deal further, in that definite attempts have been initiated from Australia to create

an Empire Body

to consult in relation to the marketing of fruit in the United Kingdom, and two conferences have now been held with this purpose. The point of view of the British grower has been introduced into these discussions, and it is hoped that eventually this work may lay the foundation of orderly marketing for all supplies reaching the United Kingdom.

The balance of this article will be published next issue. We are publishing it in full. However, a completed summary appeared in the Melbourne "Age" on August 19, 20 and 21. This forms the subject matter of the letter which follows:—

The Apple Industry.

(To the Editor, "Fruit World and Market Grower.")

Sir,—

No doubt everybody connected with the Apple industry must feel greatly indebted to Mr. Geoffrey Brown, President of the Victorian Fruit Marketing Association, in conjunction with Mr. H. W. Soothill, Secretary of the Apple Sales Board, Perth, W.A., for their very able articles on the Apple industry as published in the columns of the "Age" recently.

No one can question the qualifications of either of these two experts as persons of practical knowledge of all branches of the industry, and it is certain that unless consideration to improve the position is taken immediately, serious results must occur.

The long cherished idea that there was practically an unlimited market overseas has been shattered since other parts of the world have come into competition with the Australian Apple. The prospects of the interstate markets have also diminished, now that the other States are increasing their supplies, and we must of necessity look to the home market which should and can be made possibly more advantageous than any distant markets.

The writers of the articles mentioned above state: **"The organisation of the home consumption section of the industry is not as complete as that of the export section."** This is undoubtedly correct, and it reflects very little credit on the majority of those engaged in the industry, however, it is no use crying over spilt milk, the position is serious, and united action must be taken by all concerned if any success is to be achieved. The recommendations proposed seem very commendable, viz.:—

1. "A restriction of further plantings until further outlets are ensured or foreseen.
2. The establishment (where necessary) of quality regulations, and the strict enforcement thereof, and the elimination of some of the unattractive varieties.
3. Public co-operation to increase consumption by an intense advertising campaign to educate the people that Apples should be eaten more as a food than a luxury; this could be greatly augmented through the schools, thereby instilling the idea into the community from childhood.
4. The possible expansion of consumption in by-products; this does not seem to be thoroughly tried out to date."

In reference to the last recommendation **there is unquestionably too much inferior fruit permitted to be sold** to be consumed as fruit, and as long as orchardists persist in selling this class of fruit, whether it be in the markets, in the orchards to motor-truck owners to hawk through the country; or even to be sold on the roadsides, it **must interfere and reduce the price they receive for the rest.**

Surely everyone must realise that with the bumper Apple crop anticipated this year, unless the rubbish is kept off the market, remunerative prices will not be obtainable at all for the others.

As Messrs. Brown and Soothill state: **"fortunately the situation has not developed to such a stage that the problems are insuperable,"** but half-hearted action is worthless, and what is wanted is **thorough organisation and an intense advertising campaign,** the latter has been attempted before, but lack of funds hampered the results, in any effort again, compulsory and not voluntary assistance must be insisted on.

In conclusion, on behalf of the retail fruiterers, I wish to thank Messrs. Brown and Soothill for their very able articles, which have been of very great value to the retail trade from an educational point of view, and also for their recommendations to growers to study the home market more, as if acted upon, it may dispel the views of so many consumers, that the best are always exported, and the inferior fruit kept for Australia.

Yours, etc.,
EDW. W. THOMPSON,
Sec. Melbourne and Metropolitan Retail Fruiterers' Association.

VITAMIN C IN STRAWBERRIES.

Prevents Scurvy.

Soluble in water, Vitamin C is what is known as the anti-scorbutic vitamin. It prevents attacks of scurvy and is essential in the diet of humans in some form. Citrus fruits, Tomatoes and green vegetables are containers of C. In the old sailing ship days, scurvy attacked crews who could not carry sufficient fresh fruit and vegetables for the long voyages then necessary, and great losses of life occurred.

Dr. Ouida D. Abbott, of the Department of Home Economics, Florida, U.S.A., has found that fresh and canned Strawberries are rich in Vitamin C, and urges people to eat more Strawberries in season, and drink Strawberry juice.

DOES IT PAY?

By David H. Case, B.Ag.Sc.
(No. 2 of Series.)

MANY FARMERS state that the cost of adequately feeding their crops and trees is too high to be economic. At the same time they have not analysed this to find out what return they should get to pay for the outlay of plant food. A good concentrated and well-balanced fertiliser, such as 2 : 2 : 1 or its equivalent in blood and bone and potash costs a fraction over one penny per pound. So a tree can be very well fed for 1/-, allowing for the cost of spreading, etc. If over a period of five years the tree produces two cases of fruit for the 5/- laid out in fertiliser the money has been returned with profit. Experience by practical, successful men clearly shows that the improvement in tree health and the elimination of alternate cropping that a sound fertiliser programme brings about, more than makes up for the two cases required. The period of five years is taken as an example, because a tree is not capable of doing its best if only fed for one year after a period of semi-starvation. It has been shown many times that a period of years with annual doses of plant food is needed before the tree can get into its best producing stride.

The writer has often found farmers who, for reasons of economy, have decided to use some cheap fertiliser or one unbalanced. The practice of using super. only, or blood and bone by itself has been practiced to quite a

Melbourne Royal Show, 1936

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The "OXLO" now has . . .
ALL STEEL FRAME
GREATER CAPACITY
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NEW PATENTED FRUIT FEED

and gives perfectly accurate sizing in a two section colour sorting grader at low cost

SIZE (any fruit) BY WEIGHT

large extent. Now, the experience gained by the writer has been that the bad effects of such a change are not apparent immediately. Depending on the soil, climate, health of the tree, etc., a varying period passes before ill effects are shown. When they do appear the grower has most probably forgotten that he is now using an unbalanced plant food containing no potash, or too much or too little nitrogen, or too much phosphoric acid. He attributes the failure of his crop, falling off in fruit quality or tree health, to bad seasons, poor spraying material or the like. Never to his own efforts in practically starving the tree of one or more important plant foods.

Many wild rumours are travelling about the country that one plant food "releases" another in the soil. These have the flimsiest of scientific foundations. The amount of potash released by the application of, say, gypsum, would be very small. The general increase in soil fertility would be large, however, and the increased feeding room would greatly increase plant growth. This means that the demand on the soil for available plant food such as potash would be increased, and the plant is back where it was before the gypsum was applied. No soil is rich enough to stand up indefinitely to the demands for mineral plant food put on it by modern crops. The plant food has to be added if the soil is to maintain its capacity for the production of vigorous trees and healthy, profitable crops.

Where economy force's one's hand it is probably best to adequately feed one section of the orchard at a time, adopting a sort of fertiliser rotation. Under this scheme the trees get well fed every three years or so, and can carry on reasonably well. Whereas if they are stimulated by one plant food and the other is not there to bolster up that stimulus, bad effects are soon observed. That is what happens when an unbalanced fertiliser is used.

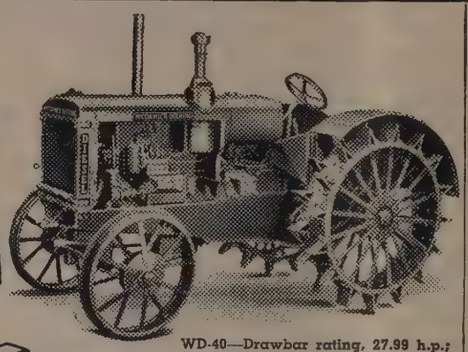
There were eight competitors in the district fruit exhibits at the Royal National Show, Brisbane, in August.

Palmwoods came first with a total of 318 pts. out of a possible 400, the others in order of placement being as follows: Woombye, Central N. Coast, Near N. Coast, Blackall Range, Gayndah, Brunswick and Richmond River, Central Queensland.

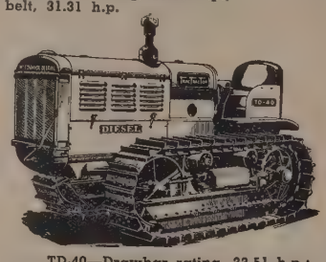
The Banana Shield was won by the Richmond and Brunswick district. Woombye won the Pineapple Shield and Gayndah the Citrus Shield.

TRACTOR FARMING MARCHES ON!

W-30—Drawbar rating, 19.69 h.p.; belt, 31.31 h.p.

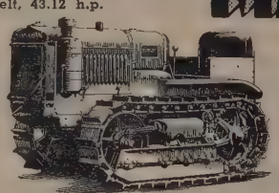


WD-40—Drawbar rating, 27.99 h.p.; belt, 44.04 h.p.



TD-40—Drawbar rating, 33.51 h.p.; belt, 43.12 h.p.

For more than 30 years the McCormick-Deering line of tractors has led the vanguard of mechanical power marching victoriously to the relief of farmers everywhere from the bondage of profitless manual toil.



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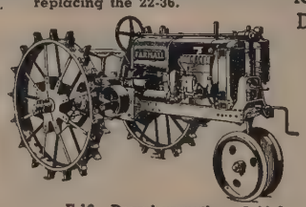

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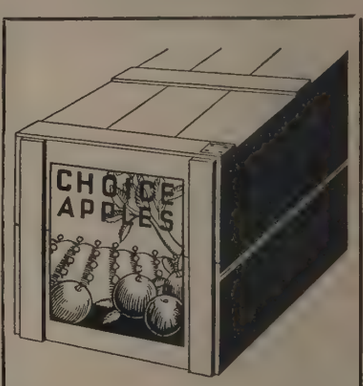

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TASMANIA

PRUNING AND SPRAYING METHODS DESCRIBED.
ORCHARD HYGIENE ASSISTS CODLIN MOTH CONTROL.
MUCH RE-WORKING BEING DONE.

THE following is a summary of information received by the Chief Horticulturist, Department of Agriculture, from the District Orchard Inspectors, together with other information relevant to fruit growing:

Weather conditions in most fruit areas were favorable for pruning and ploughing operations; and with the exception of North Western districts, rainfall was below average. Figures which may be taken as fairly representative are as follow:—

Hobart, 120 points as compared with the average, 215. Franklin, 235 (average) 297. Devonport, 604 (average) 436.

With the recent rains and occasional returns to milder intervals, orchard cover crops have made fair growth, considering the dry conditions under which they were sown.

Pruning.

This operation has almost been completed in most districts. It is noticeable the number of growers who have **commenced to bring the fruit out on to laterals**; this practice should be adopted more generally, for not only has it advantages from a color viewpoint, but a more thorough spraying may be given to each fruit, and less cover will be afforded to the Light Brown Apple Moth.

With vigorously growing young trees of such varieties as **Tasman's Pride**, many growers have attempted to steady their trees by omitting to tip the leaders. Care must be taken, however, to see that this object is not achieved at the expense of the framework; therefore, in the second season "jointing back" (that is, leading to an untipped lateral lower down) should be practiced.

On varieties less subject to produce numerous laterals, light tipping and more liberal treatment of existing side branches in the main body of the tree will generally produce sufficient steadying influence.

Codlin Moth.

Growers are continuing their seasonal drive against the codlin moth, the removal of bandages and destruction of larvae, together with a thorough scraping and clean up of loose bark resulting in a very heavy mortality. **Chemical bandages have given very good results again, but it should be remembered that these should not be left on the trees indefinitely and will require renewal.**

The preparation of chemical corrugated cardboard bandages is not difficult, provided the proper protective precautions are observed, but though the formula is simple, great care in the actual blending of ingredients is essential if efficiency is to be insured.

Neglected Areas.

The destruction of non-commercial and neglected orchards is being continued, and if this is completed soon the soil may be used for more suitable crops this coming season. The grubbing of stumps in orchards that have been cut down is strongly urged as danger from the "dieback" fungus (P. versicolor) may occur where such stumps have become affected.

Re-Working Fruit Trees.

Preparations for re-working are being made on a very extensive scale this year, and the time of the District Orchard Inspector is fully occupied in procuring scions for growers, and generally giving advice as to the most suitable varieties and methods. For the information of certain growers who have written to the Department, the assistance for re-working trees referred to in the press recently is not (as has been explained previously) a direct payment or grant, nor could the Department be expected to supply men to carry out the complete work, for many hundreds of growers are grafting on an extensive scale this Spring.

An endeavor will, however, be made to procure the necessary scions and practical demonstrations will be given.

The Spraying Programme.

A few orchardists have applied the first dormant sprays during this month (August) tar-distillates being the main applications to date. For the control of red spider, prepared Winter oils are preferable being easier to apply and having the advantage from an ovicidal point of view of late application; in addition a much better kill is obtained.

The main use for tar-distillates is in the control of Peach and Cherry aphis.

In England and Europe this spray is much in favor for the control of many species of aphids and moths which deposit their eggs on the trees over Winter—fortunately, however, most of these particular species are not present in Tasmania. It has been hazarded that tar-distillates will control the Light Brown Apple Moth, being particularly good in the control of closely allied species of Tortrix in England. In the light of present knowledge, however, this supposition may be discounted, for whereas the English Tortrix is adapted to deciduous trees and deposits its eggs (like the red spider) on the trees in Autumn, the Light Brown Apple Moth being a native, is adapted to evergreens, and no eggs are found on the trees in Winter.

Combined tar-distillates and mineral oils have produced very promising results for the control of red spider, and many other pests, and one or two proprietary combinations are already on the market. At the present time, however, growers cannot satisfactorily combine these sprays themselves.

Apricots and Peaches have now reached the stage for the first Spring application of Bordeaux mixture for the control of shot-hole and leaf curl respectively, and should be treated without delay as buds are coming forward very rapidly indeed.

Spraying charts for this season have now been prepared, and are available on application to the Department of Agriculture, Hobart, or to the District Orchard Inspectors.

Berry Fruits.

With improved soil conditions and milder weather, Spring Strawberry plantings can now be made. On steep banks, care must be taken to see that no soil washing through excessible rain will occur to injure the young plants, central furrows between the rows and a cross drain to cut off any flow from higher land will achieve this.

Raspberry plantations are looking exceptionally well this year in most districts, and both pruning and cultivation have been completed.

School Packing Classes have been conducted regularly throughout the month, and the progress of the pupils reported last month has been maintained.

Hobart, 8/8/36.

Central Packing Sheds and the Co-operative Handling of Fruit

LONG LINES OF STANDARDISED FRUIT ARE THUS AVAILABLE.

Successful Methods Described by L. S. Taylor, Exeter, Tas.

UNDER THE AUSPICES of the Tasmanian State Fruit Board, addresses on the subject of central packing sheds and the co-operative handling of fruit were delivered to appreciative audiences by Mr. L. S. Taylor, Secretary, Tamar Valley Co-operative Co. Ltd., a member of the Board during August at Woodbridge, Wattle Grove, Cygnet, Geeveston, Franklin, Huonville, Crabtree, New Norfolk, Sandford and Koonya.

The substance of Mr. Taylor's remarks is as follows:

:: :: ::

Before telling of our organisation in the Tamar Valley, I should mention some of the points put forward by those who have visited our markets as reasons why central packing should be undertaken in Tasmania. I do not necessarily put them forward as my opinion, though I agree with most of them.

In the first place you will agree that neither of our main markets is stable; the Sydney market, this year is giving a very fair return, but not a great deal over cost of production, and when you look back over the past few years it has been anything but stable, and further, one shudders to think what may happen should all three of the main producing States have a full crop on the same year.

As to the stability of the English market, I need say little as you are all receiving your account sales from a market which we had every reason to expect to be good, and you know as well as I do what those returns are. There is, however, always a certain percentage of buyers who are prepared to give payable prices for the particular standard of fruit they require **provided they can obtain them in long and standardised lines, and it is with the object of capturing these sales that central sheds with a standardised outturn, are advocated.**

Another point that has been stressed, is the difficulty of selling and the difficulty of buying Tasmanian fruit, marketed, as it is, in a multiplicity of brands and small lines. Fruit sent from Tasmania is delivered in the U.K. in three main ports, London, Liverpool and Hull. But only a portion of it is consumed in those cities, the balance being sold for transport to the other big cities, and one of the systems by which this fruit is bought is that the shops and other distributors in the inland cities combine together and send or appoint one buyer to obtain their requirements. When this buyer goes, say to London, he wants perhaps two or three thousand cases of fruit, and he sends certain varieties and certain standards. If American, or South African, or New Zealand fruit is there he can buy his requirements in a matter of an hour or so because their fruit is marketed in long and standardised lines, but he cannot buy the same amount of Tasmanian in that time, it would

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probably take him half a day or more, because he would have to examine a sample of every small line to be sure that he was getting the standard he wanted.

If this is the case, and we are assured that it is, then there is a grave danger of the intention of these buyers turning their attention to the countries which are supplying the fruit they can buy easier and more economically, it is, therefore, contended that by combining together and packing your fruit to a uniform standard and under one brand, there should be every chance of keeping the interest of these buyers in Tasmanian fruit.

Organising a Packing Shed.

Now as to the formation of sheds. As far as I know there are three ways in which this can be accomplished, all of which are being carried out in one centre or another with some amount of success.

The first is an arrangement by a group of growers with a firm or individual to pack their fruit at an agreed price through one shed under one common brand. This idea has something to recommend it, particularly the matter of finance, and I realise that the raising of the necessary capital to make a start will be one of the prime difficulties. But it would fail in the main of the reasons given for the establishment of sheds, in that it would standardise only that portion of the crop which was handled by that shed.

The second system by which packing sheds can be started is a group of growers agreeing together to pack their fruit through one shed under one brand. I am afraid, however, that, without proper rules and regulations, there would be distinct possibilities of, either considerable trouble between the growers themselves, or the chance that each grower's fruit would go away packed to the standard previously adopted by him, thus nullifying any advantage that was to be gained.

The third system, and that which I know more about than the other two, is the **formation of Associations**, in the centres where sheds are wanted, with proper rules and regulations as the conduct of the packing and marketing; and later the **amalgamation of these Associations** into one central association or company embracing all the local bodies. This would provide other definite advantages, i.e.—the purchase of supplies of packing requisites, spraying material, manures, etc., in bulk. Local freights could be dealt with from a collective point of view. Forward sales could be undertaken, and it is not beyond the bounds of possibility that an organisation such as this could send its own man home to effect sales on its behalf. And the possibility of standardising the pack under one brand of a very large quantity of fruit now going away under hundreds of growers' brands.

The following points should be carefully observed:—

(a) Frame the rules to give all possible liberty of action to members consistent with obtaining the objects.

(b) Obtain tactful and efficient management for the packing sheds.

(c) Provide for a system of service to members both in the shed and in the office work that is comprehensive and economical, and at the same time providing for the outturn of a good pack.

But no organisation can be expected to give the maximum of service during the first few years, until it has had time to get properly on its legs. If you form an organisation, help it to success by keeping your criticism within the association rather than kill it by giving its enemies bullets to shoot it with.

(To be continued.)

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U.S.A. APPLE CROP.

Very Light Crop for 1936.

The official advices from U.S.A. are as follows:—

For the entire United States the forecast is for 103,214,000 bushels, as compared with 167,283,000 bushels in 1935; 120,670,000 in 1934; 142,981,000 in 1933; 140,775,000 in 1932; and 202,477,000 in 1931.

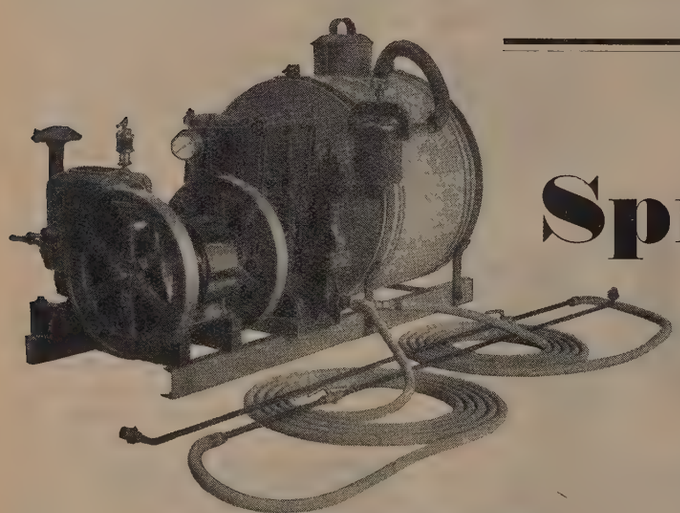
U.S.A. APPLE ADVERTISING.

Growers Inaugurate Publicity Campaign.

THE following interesting comments are extracted from a recent issue of the "American Fruit Grower."

Realising that the consumer is being weaned away from the use of Apples by other fruits, progressive growers of Pennsylvania, Maryland, Virginia and West Virginia have banded together under the banners of their state horticultural societies to unite in an effort to stem this tide of non-usage of the King of Fruits.

Plans call for the issuance of publicity material on Apples to newspapers and magazines, news pictures, "stunts" about Apples for short news stories, health and food information to doctors and housewives and radio broadcasts. Financing of the campaign calls for contributions from growers in the four-State Apple belt amounting to one-half cent per bushel on U.S. No. 1 and utility grades only. Each State was given the task of canvassing growers for contributions to the financing fund.



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Letters to the Editor

TRADE AND COMMERCE.

Commonwealth Powers.

The Editor, "The Fruit World.

Sir,—It appears to have been generally assumed that because the existing Commonwealth marketing legislation has been found to be illegal, the Commonwealth has no power to regulate the marketing of Australian produce within Australia. This assumption, for it is nothing more, is based on the fact that neither the Commonwealth nor the States can legally do anything to interfere with absolutely free trade between the States or between the inhabitants of one State and those of another.

As the Privy Council's judgment points out, according to newspaper reports, there is no such thing as absolute freedom, however, the implication appears to be that every citizen must be equally free. The judgment goes on to say: "As a matter of actual language the 'freedom' in section 92 must somehow be limited, and the only limitation that emerges from the context, and which is logically and realistically applicable, is freedom at what is the crucial point in interstate trade, namely at the State barrier." Then further: "We are of the opinion that section 92 binds the Commonwealth."

The old State rights idea of regarding the States as six separate entities seems to have clouded the issue and obscured the fact of Australia's essential unity as one whole legal entity under the Commonwealth. It is the oneness of the Commonwealth that its founders sought to emphasise and preserve in section 92 of the Constitution; this intention is further emphasised in section 99. It is well that the Privy Council by its judgment, has preserved this equality of freedom in trade throughout the Commonwealth, and has upheld the ideal of its founders: One united Australia, free from State trade barriers.

It is the failure of the Commonwealth Parliament to recognise the oneness, the indivisible whole of the Commonwealth of Australia, and the equality of its citizens in trade and commerce throughout Australia, that has caused it to enact laws which are contrary to the Constitution. Neither the Commonwealth nor States may legally differentiate between trade within a State and that passing from one State to another. This applies to road traffic regulations just as much as to regulations governing the sale of goods.

Provided that the freedom of trade within the Commonwealth is not interfered with as specifically provided in sections 92 and 99, the Commonwealth Parliament has full power to control and regulate trade within the Commonwealth. This is definitely provided for in subsection 1 of section 51 and section 86. The consent of the States is not necessary to the exercise of these powers by the Commonwealth.

All that is necessary for Commonwealth Control of dried fruit, dairy produce and any other commodity is to amend the acts or pass new acts making them apply to the whole of the Commonwealth of Australia. It is obvious that if one set of minimum prices is fixed ex-store throughout the Commonwealth, it will not pay anyone, though they are free to do so, to buy from interstate sources except in the case of acute shortage.

The Commonwealth Parliament has failed in its duty in its continued omission of the appointment of an Interstate Commission as provided in section 101 of the Constitution, and it would appear that the Commonwealth can only legally exercise its powers over trade and commerce within Australia other than Customs, Excise and Bounties, through an Interstate Commission. If this be the case, which it apparently is, the Commonwealth Parliament must appoint an Interstate Commission to administer any marketing legislation that it enacts.

Yours faithfully,
F. B. BOLTON.
334 Queen-street, Brisbane, Qld.,
15/8/36.

THE PRIVY COUNCIL CASE.

To the Editor, "The Fruit World."

Sir,—With regard to the decision of the Privy Council in the case of James v. Dried Fruit Board, I would like to state, as a fruitgrower, that the verdict gave me great satisfaction. Is it not time that we realised that robbing Peter to pay Paul is not only dishonest, but that when all the contemplated Boards are established, and the people completely shackled, the whole undertaking will collapse with its own weight. Re Nemo's remark that "the marketing scheme has been wrecked by a trader": surely these worthy people have legal rights equally with other members of the community.

If the primary producer would follow the idea behind Clause 92 to greater lengths and move to have the tariff considerably lowered if not abolished, he would find that owing to reduced working costs he would be in a position to export profitably and thereby put his business in a healthy state instead of the present artificial position.

Sincerely yours,
R. SERPELL.
Williamsons-road, Doncaster, Vic.,
9/8/36.

GAS STORAGE.

(The Editor of the "Fruit World and Market Gardener.")

Dear Sir,

Commenting on the letter from Mr. Lightfoot, Secretary of the Council for Scientific and Industrial Research, in your August issue.

The writer was informed on very reliable authority that one of the officers of this body was in England at the present time, and that among his other duties was an investigation into the position of storage of Apples and Pears under controlled atmosphere conditions and has even been informed by recent mail that he has contacted with the gentlemen in charge of the work at home.

By analogy, from English experience one would expect Jonathan Apples would require a further reduction in the oxygen content of the atmosphere than would be obtained by the formation of 5 per cent. to 8 per cent. of carbonic acid.

Surely Mr. Lightfoot is slightly premature, or possibly only ultra conservative, in his statement: "It is doubtful whether gas storage would ever be worth-while in this country." If he will refer to Mr. W. J. Spafford's report on his investigations on behalf of the South Australian Government, into what our competitors in the Southern Hemisphere are doing, he will see that South Africa is doing some very active research on these lines; presumably in the belief that it may be of considerable service to their growers.

There are two outstanding advantages of controlled atmospheric cool storage. The life of Apples at any given temperature is about double that of the same fruit in ordinary atmosphere. This means the elimination of low temperature breakdown, and some other troubles. The condition of the fruit is better, and its after storage life much longer. Growers and cool storage engineers will agree that if these two aims are within the bounds of achievement, they are worth a little research and investigation as to how fruit grown under our condition will react to controlled atmosphere cool storage. These gentlemen will also appreciate the fact that variety, growing conditions, state of maturity, and soil are rather vital factors in storage life under our existing systems.

The writer was pleased to learn recently that the Council for Scientific and Industrial Research co-ordinating its efforts with the Department of Agriculture in N.S.W., are about to erect experimental cool chambers at the Abattoirs in Sydney, and that among their plans for research work in fruit and vegetable cool storing is one to investigate just what conditions of atmosphere and temperature will give optimum results with Australian Apples and Pears, as well as other fruits.

Yours faithfully,
J. E. DODDS.
Greenlands, Batlow, N.S.W., 20/8/36.

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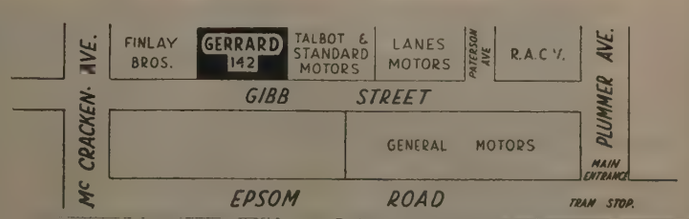

CANNED PINEAPPLES

Is the Home Market Neglected?

THE Victorian branch of the Australian Natives' Association recently laid a charge that the Australian market for Pineapples is being seriously affected by the importation of canned Pineapples from British Malaya. Enquiries are reported to have been made in Mildura, Red Cliffs and Merbein, where imported canned Pineapples were exposed for sale, when storekeepers stated that Queensland canned Pineapple was not available, and that the only supplies obtainable were for Singapore goods.

The retail prices quoted were 1/4 for Queensland 30-oz. cans and 1/1 for Singapore 19-oz. cans, showing that the imported article was dearer.

The Board of Directors of the A.N.A. immediately brought the position under the notice of the Queensland Minister for Agriculture, who is reported to have stated that the importation of Malayan Pineapples followed a shortage in the Australian pack last year when the pack was light.

When the crop estimated for last Winter failed to come up to expectation, the Committee of Direction of Fruit Marketing had to decide whether the whole pack should be marketed in Australia, or a portion exported, and to enable a continuity of export it was necessary to cut Australian bookings down and to export a limited quantity, therefore a limited quantity of Malayan Pineapples was introduced, but the duty thereon was expected to offer sufficient protection to the Australian industry.

This year, it was pointed out, indications of a good Winter crop were such that it is anticipated that canneries will be able to meet all of their Australian bookings in full, and that there will be no need to import further supplies.

Is this an explanation or an excuse? is what the Merbein Branch, A.N.A., is asking. They are not satisfied with the reply, and feel that the position is anomolous. Their argument seems sound that Australians should not be forced to pay a higher price for imported goods that can be produced in Australia, or that producers should be rationed on the Australian market and have to accept a lower price (presumably) for exported goods when there is a demand for them in Australia.

The ample protection that Queensland producers enjoy, they claim, carries a moral obligation to fill all Australia's requirements before any export is undertaken, and the A.N.A. proposes to follow up the matter with the Queensland Government.

Trade Worries.

Old Anthony of the antique shop was nothing if not a pessimist. "Well, Anthony," remarked a friend, "how's business?"

"Terrible," was the reply. "If things are expensive people can't afford them, and if they are not expensive, people don't want them."

London Representative

Lord Strathcarron Appointed.

The position of representative in London of the Canned Fruits Control Board, which became vacant by the death of Sir James Cooper, has been filled by the appointment of Lord Strathcarron to the post of Chairman of the Board in the United Kingdom.

The appointment has been well received in London by buyers and agents. At a recent dinner, held in London, Lord Strathcarron, in replying to a welcome extended to him by the trade, said that he believed that the development of the Australian canned fruit trade with Great Britain was closely related to the amount of co-operation between the various sections of the trade, which he hoped to still further stimulate. He felt the responsibility of following such a brilliant man as the late Sir James Cooper, but he would at all times be accessible to the trade, and he hoped to worthily represent Australia in the field of the canned fruits place in commerce with Britain.

Lord Strathcarron is perhaps better known as Sir Ian McPherson. He is not new to fruit interests, and he brings to the position a record of much experience in British politics and commerce. He was Chairman of the recent Empire Fruit Conference and late Chairman of the Processed Fruits Committee of the British Empire Producers' Organisation, with which body the Canned Fruits Board is affiliated.

It has been said that success comes in Cans; failures in Can'ts.

PEACHES AND PEARS IN U.S.A.

Official advices from California place the 1936 estimated crop of **Clingstone Peaches** at 307,000 tons.

This may be compared with production estimates of other recent years, of 288,000 tons in 1935; 324,000 in 1934, of which only 271,000 tons were harvested; 351,000 in 1933, of which only 265,300 tons were harvested; and 340,000 tons in 1932, of which only 187,000 tons were harvested.

Pears.

California.—Reports for this crop, as of July 1, show an improvement over a month ago, and are now forecast at 236,000 tons, which compares with 163,000 tons in 1935; 233,000 in 1934, of which only 224,000 were harvested; 221,000 in 1933, of which only 181,000 were harvested; and 238,000 tons in 1932, of which only 174,000 tons were harvested.

Pears in Other States.—The July 1 forecast of the United States Pear crop is shown as 23,264,000 bushels, as against 22,035,000 bushels in 1935, and 23,490,000 bushels in 1934. For various important Pear States, forecasts as of July 1 are:—New York, 660,000 bushels; Pennsylvania, 285,000; Ohio, 196,000; Illinois, 264,000; Michigan, 721,000; Missouri, 56,000; Virginia, 224,000; N. Carolina, 141,000; Texas, 273,000; Idaho, 56,000; Colorado, 312,000; Utah, 79,000; Washington, 5,070,000; Oregon, 3,431,000; and California, 9,834,000 bushels.

1936 CANNED PACK.

Sales Resumption Expected.

Several factors are reported as having been responsible for a slow movement in sales for Australian canned fruits on the English markets. Heavy imports of American canned fruits at a very low price was probably the principal factor, plus an abnormally wet Summer in England, which restricted sales.

The recent drought in America, however, decreased production in the Middle and Western States, and home consumption requirements lessened late exports, so that now American prices in England are firming to what approximates Australian values, and sales are increasing.

The new season's anticipated pack for export from America and their prices have not yet been announced, and buyers are holding off for the present until these conditions are known. Last season the American carry-over was light in Peaches and Pears, although the Apricot carry-over was heavy. It is anticipated that buying of Australian canned fruit will be resumed within the next few weeks in Great Britain.

Ordinarily, Australia provides about one million cases of Apricots, Peaches and Pears annually of the four million cases which the English markets absorb, but, given satisfactory preference over American canners, it is anticipated that this volume can be materially increased.

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Dried Fruits News and Notes

INCREASED PLANTINGS REPORTED.

1,000 Tons More Sultanas.

Increased plantings at Nyah, Bungunyah and Woorinen should result in an increase of Sultanas by 1,000 tons, said Mr. P. T. Byrnes, at Swan Hill recently. From 200 to 300 more acres would be devoted to Sultanas, and it is reasssuring to growers that favorable prices had been received for fruit exported to Java and Hong Kong. The tendency now is to plant on the higher levels to escape frosts. Ohanez was receiving more attention by growers in these districts following recent successes and favorable prices.

HALF A MILLION TONS.

U.S.A. Crop for 1935.

As a comparison with Australia's 1935 dried fruits crop, it is interesting to note the report of the Dried Fruit Association of California for 1935, which states that members of the Association received the following quantities:—

Raisins 198,550 tons, Peaches (Clings) 3,821 tons, Peaches (Freestone) 15,706 tons, Figs 23,327 tons, Apricots 25,540 tons, Apples 11,887 tons, which, with smaller varieties brought the total of dried fruits handled up to 539,864 tons, as against 406,241 tons handled in 1934.

DRIED FRUIT SALES.

Report from London.

A report issued by the Commonwealth Dried Fruits Export Control Board advises that the demand for Australian dried fruits continued active during August. During the week ended August 20, 1,729 tons were sold, comprising 70 tons Lexias at an average price of £49/18/2, 321 tons Currants at an average of £30/9/4, and 1,338 tons Sultanas averaging £42/0/6 per ton.

The political situation in Spain is having an effect upon sales of Lexias owing to restricted supplies from that country coming forward. London reports that all Australian Lexias en route will be taken up upon arrival. Up to August 6, shipments of Australian dried fruits amounted to 41,000 tons to all markets. Included in this quantity, 13,659 tons were shipped to Canada and 2,957 tons to New Zealand.

"FRUIT WORLD" APPRECIATED.

The Editor,

Dear Sir,

I congratulate you on the great improvements in the "Fruit World."—(signed), "E.H.I.," Tatura, Victoria.

EXCISE AND BOUNTY.

Commonwealth Not Favorable.

At Mildura recently, Mr. H. D. Howie, Chairman of the Australian Dried Fruits Association, stated that a scheme was proposed by his organisation to protect growers.

The objective of the proposal lies in a system of excise as a means of price stabilisation within Australia. Export fruit would not be affected, and the plan would not run counter to Section 92. It is reported that Mr. James, the opponent of the quota system, is favorable to excise as a means of compensation.

In addressing members of the Constitutional Club recently, Mr. F. Herring, K.C., stated that the most feasible means of assisting growers and to maintain local prices was to establish a system of excise and to distribute the money thus obtained amongst the poorest producers. This system, he explained, has been extended to the wheat industry. It would restore to Parliament the control over the amount to be raised, and the method of distribution.

Unfortunately, despite the views of the industry, the Federal Government, it is understood, does not favor the adoption of such a proposal until further consideration is given to the question of a referendum as to the amendment of the Constitution.

RAISINS IN U.S.A.

Declining Production.

The three classes of Californian Grapes are forecast for 1936 as follows:—429,000 tons of wine Grapes; 894,000 tons of raisin Grapes, and 306,000 tons of table Grapes.

Of the 1,248,000 tons of raisin Grapes, fresh basis, produced in 1935, 203,000 tons of dried Raisins were made; while in 1934 there were 171,000 tons of dried Raisins; 195,000 in 1933; and 262,000 in 1932. While indications are for somewhat smaller crops for both wine and table varieties, **the greatest decline under last year's crop is indicated for Raisin Grapes.**

Vineyards in California are generally in good cultural and moisture condition, the reduced outlook of production being mainly due to Spring frost damage. While the Summer, to this date, seems to have brought more than the usual amount of relatively high humidity to Grape-growing areas, it is not yet indicated that there will be extreme development of Grape mildew. However, extra applications of sulphur have been made in many vineyards. It is also too early to determine what the development of Grape leaf hopper may be, although some reporters indicate that these insects seem to be more abundant than a year ago.

New Zealand News and Notes

Dominion Conferences — Overseas and Local Marketing — Quotas — Unsatisfactory Export Prices — N.Z. Enquiry into the Fruit Industry — N.S.W. will be Represented — Lemon Production Increasing — Little Apparent Prospect of Lifting Citrus Embargo — Problem of Motor Truck in Trade in Shifting Fruit from Orchards.

(By Our Correspondent.)

THE DOMINION CONFERENCES of the N.Z. Fruitgrowers' Federation Ltd., and the Fruit Board duly took place in Wellington at the end of July. Delegates had a busy time attending to national matters. In addition there were all the small provincial troubles which necessitated deputations to Ministers, etc., and while attendance at conference is sometimes looked upon as a holiday, quite a number of the delegates there for the first time were no doubt feeling the strain at the end of the four days, and possibly inclined to change opinions as to the holiday jaunt.

Financial Assistance Sought.

A combined deputation waited on the Minister of Finance and Markets to ask for the assistance required to enable the industry to come intact through the present period of low prices. It was pointed out by members of the deputation that without this a number of growers could not possibly remain on their properties. The Minister, while being quite sympathetic, stated that the Government did not propose to include fruit under the guaranteed price scheme until 1938, but in the meantime if some assistance is required, sympathetic consideration will be given when the results of the 1936 export are known. This actually does not get the industry very far. Exporters, and those who do business with them, realise that results are going to be bad, but just how bad will not be known until the numbers go up.

In the meantime it is necessary to prepare for 1937 and in another month thoughts of fruitgrowers will be turning to spraying and the production of the 1937 crop, all of which takes money. The export season will be long drawn out, the last New Zealand steamer, the "Empire Star" arrived in London on August 3, after a record trip. There are still supplies of New Zealand fruit in United Kingdom cool stores so that it will be the end of September before final account sales reach New Zealand, which means October before a full statement of the position can be placed before the Minister.

At the Federation Conference, local markets, came in for quite a degree of consideration, but the Conference would probably have dealt more fully with

local market matters

if the enquiry being conducted by the Government was not so close at hand. The Commission which has been appointed will take evidence in every fruitgrowing centre, and this alone will occupy a period of two months.

It is reported in New Zealand that a deputation from the New South Wales citrus growers will place evidence before this Commission in Wellington, so they can be expected to arrive about the end of September. The Order of Reference is wide, and for those most vitally concerned it is hoped that the Commission, after hearing all sides of the story, can make some recommendations which will secure an improvement in present conditions.

The discussion on guaranteed prices and local markets were the two main issues before the recent Conferences, many other matters were dealt with, but were entirely over-shadowed by these two vital subjects. Conditions within the industry are at the present time at a very low ebb. There is one consolation they could not be very much worse, so perhaps the old motto will apply—"it is the darkest hour before the dawn"—may it come quickly.

Lemon Production Increasing.

During the progress of the Conferences the citrus growers of New Zealand had a separate meeting. Production of citrus, mainly Lemons, has expanded very considerably in the last few years, and New Zealand is now producing sufficient Lemons for the New Zealand market, but unfortunately the bulk of these is not of the quality that appeals to the public and supplies from other countries are still being imported and sold at a pre-

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mium. A lot of time was spent in discussing grading regulations, and many exhibits of fruit extracted from commercial consignments were available. The citrus growers have formed themselves into a Council and are soliciting Government support towards placing the industry on a better basis, both in regard to marketing and quality.

Export Prices.

Prior to the commencement of the Export Conference a mid-season report was received by the Board from their London manager. In this report many points of interest were covered, and various suggestions were made as to the cause of the collapse in prices. It is very obvious from all reports being received that the United Kingdom fruit trade is rather at a loss to account for this season's low prices.

On statistics it is shown that Australia and New Zealand combined shipped a greater quantity than any period during the last three years, but after allowance is made for the improvement in economic conditions the heavier shipments can hardly be blamed for the extremely low prices received. Other suggestions that dear vegetables have shortened up the buying power on fruit would only apply among a certain section of the public.

It almost looks as if the Jubilee in 1935 accounted for the comparatively high prices received that year, and the absence of any outstanding event in 1936, combined with larger quantities was just a little too much for the market. Perhaps the Coronation in 1937 will once again save the price market.

Quotas.

A suspicion was voiced during the progress of the Export Conference that Australia had exceeded the voluntary quota agreed upon with the New Zealand organisation. Nobody seemed to be very clear on the point. Presumably further negotiations will be carried on for the 1937 season, and these will be conducted in a much better atmosphere if all doubts are removed.

Dominion Selling Methods.

It is remarkable how developments in transport can have such an effect on the selling methods of produce, this point was raised at the recent Conferences. Those fruit centres which are located within 200 to 300 miles of their markets have seen in the last few years a gradual development per medium of **buyers with large motor lorries picking up the fruit at the orchard and delivering direct to the distant markets.** This eliminates the ordinary cartage to and from rail and makes it possible for the grower to sell his fruit without having to incur the expense of buying containers. The fruit evidently arrives at its destination in much better condition through the elimination of packing and cartage bruises.

The popular container in use for this trade is the Banana case, and the hawkers responsible for the conduct of the business are reported to have secured 150,000 boxes from the Hawke's Bay district alone during the season just closed. They are not only delivering direct to the public, but to the small retail shops as well. This must have an effect on the turnover in the market. **The buying competition is reduced, and lower turnover means high overheads, so the development of this hawking trade is not altogether an unmixed blessing.** That it renders a service to the industry is undoubted, but control of some sort is needed if only to ensure that the public are not supplied with fruit which would be condemned in the open markets.

There is a real danger of this trade buying chiefly windfalls and diseased fruit, which, in normal circumstances would be destroyed, but which, if allowed to reach the consuming public, will only aggravate the present position.

One delegate pointed out that in his district Banana cases were against the regulations, and when this was confirmed by the Director of Horticulture, he went on to state that the regulations were broken 150,000 times in Hawke's Bay during the past season. Under proper regulations the hawking trade could do a lot towards increasing the consumption of fruit, particularly in the country districts, and from that point of view it should be encouraged, but competition with the existing markets must be on a reasonably fair basis, otherwise the auction trade which is the channel of distribution for the large percentage of the crop will suffer, and this must be to the detriment of the grower.

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New Zealand Embargo.

It has been suggested that a better heading for this paragraph would be Citrus versus Potatoes. New South Wales wants a citrus market in New Zealand, and New Zealand wants a Potato market in Sydney.

A fresh development which is unlikely to assist the New South Wales citrus growers is the opening of a market for New Zealand Potatoes in South America. The business has developed rapidly during the past few weeks and approximately 2,400 tons have been despatched with a reasonable expectation that further quantities will go forward by the end of August-early September. One of the leading stock and station agency firms has sent a representative with the first shipment with the object of trying to develop a regular export outlet.

If this is successful the hands of the New Zealand Government will be considerably strengthened in any further negotiations with Australia, as on present production figures an export outlet such as South America, can easily take care of any surplus, New Zealand could produce much greater quantitites of Potatoes, and this is a point in favor of the Australian citrus grower.

With the introduction into New Zealand of Jamaican Oranges, and the development of the Potato trade in South America, the hands of the New Zealand politician have been greatly strengthened since the embargo was introduced.

It sems all wrong that there should be any restriction between neighboring countries, both members of the British Commonwealth, but there it is, and the business community has to face the situation as it exists and find other avenues for the development of trade and the securing of necessary supplies.

Unless some early action is taken in regard to citrus, it seems obvious that New South Wales and Victoria will have great difficulty in re-entering the New Zealand markets.

Orchard Tax in N.Z.

In view of discussions elsewhere as to the value of raising funds by means of Orchard Registration, it would be of interest to quote New Zealand's experiences in this connection.

The New Zealand Orchard Tax Act was introduced in 1916 for a period of five years, and these periods were renewed from time to time until about 1926, when the present Orchard Tax Act was passed with no time limit.

The basis has been altered from time to time. In the early days everyone owning fruit trees had to pay on a minimum basis, which was then 2/6 or 1/- per acre.

This was subsequently altered to a minimum of 5/-, and orchards of less than 120 trees were excluded, the 1/- per acre for commercial orchards remaining as before.

The reasons for this were that the **cost of collection** of these minimum amounts was so high that practically all the collections were absorbed in expenses.

The popular method of payment was through the Post Office, which made a charge of £3 per 100 collections, irrespective of the amount. The heavy cost occurred in the collection from those who did not pay promptly, and the incidence of this tax was most unpopular among the semi-suburban growers—in fact, it is questionable whether some of them produced fruit worth 2/6.

The New Zealand Orchard Tax is now on what might be termed a commercial basis, but the amount of money collected is disappointing, and the cost of collection is still a very heavy item. The Horticultural Division of the Department of Agriculture, which is the body responsible for collecting Orchard Tax, claims, and we believe rightly so, that they are not recompensed for the work they do by the amount charged for collection.

The money collected by the Horticultural Division is, after deduction of collection costs, paid over to the N.Z. Fruitgrowers' Federation Ltd., the national co-operative organisation of New Zealand, and under the Orchard Tax Act they have powers to expend this money in certain directions.

The Annual Conference of Fruitgrowers was first made possible by the Orchard Tax, and many worthy ideals have been made actual facts because of the existence of this fund. The New Zealand fruit industry can look back with satisfaction on what has been achieved. It might be claimed that the commercial organisation of the N.Z. Fruitgrowers' Federation Ltd., and subsequently the Fruit Board was made possible by the Act of 1916.

There are, of course, troubles such as collection of arrears. Originally it was almost impossible to write these arrears off as bad debts, and it had the effect of increasing collection costs because of efforts to recover. Later on the Audit Department agreed to accept certificates for the writing back of amounts which were certified to as irrecoverable.

Acreage or Production Tax?

When the Orchard Tax was first under discussion there was a strong difference of opinion as to whether it should be on an acreage basis or a production basis—acreage won, but there are still some who hold that production should be the governing factor as a grower on 10 acres producing 2,000 boxes should not be called upon to pay the same amount of money as a grower on a similar area producing 5-6,000 boxes. These old differences of opinion have long since been forgotten. Undoubtedly an acreage tax is far more easily collected than a production tax, and further, on an acreage basis there is a fixed income whereas on a production basis the income will vary according to the season.

A fruitgrower was drawing some money from the bank when the teller apologised for the greasy condition of some of the notes: "I hope you're not afraid of microbes," he said.

"Not a bit," replied the fruitgrower, "I assure you no microbe could live on my profits."

Delicious Apple trees in full bearing at the orchard of Mr. C. J. Nash, "Floresco," Shepparton East, Vic. Trees planted in 1926.

WHICH SOURCE OF NITROGEN?

Controversy will probably always exist on the subject of the relative merits of different forms of nitrogen compounds as plant foods. The technical and commercial aspects of this question offer such interesting and practical opportunities as to engage the attention of agricultural scientists throughout the world.

Much is heard to-day of the superiority of this or that nitrogen compound over the nitrate form of nitrogen under specifically defined growing conditions and an authoritative clarifying statement on this subject has long been needed. This has been provided by Sir E. John Russell, Director of the Rothamsted Experimental Station, Harpenden, England. Writing in the recently issued "Journal of the Royal Agricultural Society of England," Vol. 96, 1935 (p. 347) he sums up this question as repreduced below:

"The Source of Nitrogen for Plants: The old question, whether plants can take up nitrogen compounds other than nitrates (which are usually regarded as their best food), is being investigated once more. Each generation of workers reopens this question, and always with the same result: other nitrogen compounds can be assimilated and they are assimilated under sterile conditions. But no nitrogen compound has yet been found more efficient as a fertilizer than a nitrate, and so for the present the practical position remains as it was."

ACKNOWLEDGMENT.

The photo on page 25 is by courtesy of the Victorian Department of Agriculture, and is republished from the "Commonwealth Agriculturist," issued by the Commonwealth Fertilisers and Chemicals Ltd., Melbourne.

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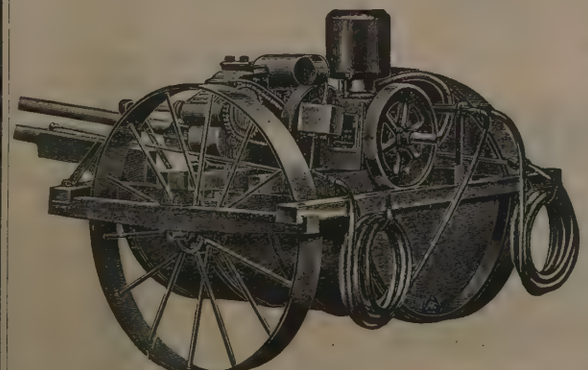

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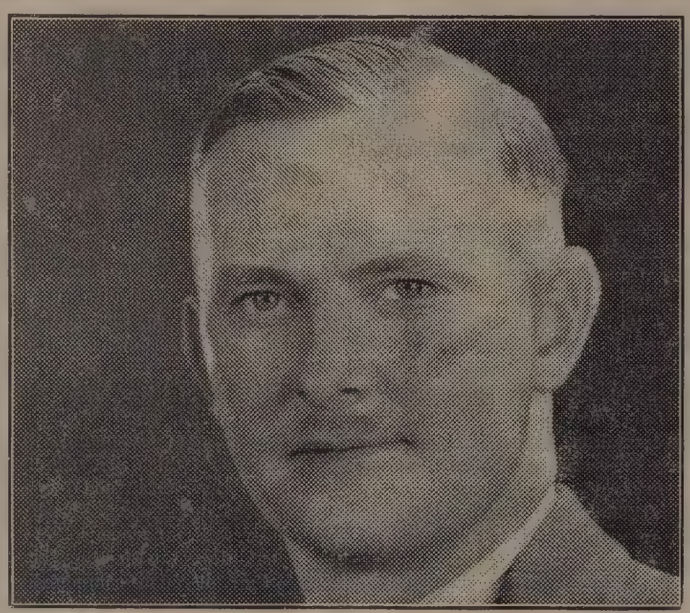

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THE Commonwealth Statistician says that out of every 100,000 males born in Australia 90,711 reach 25; only 76,504 reach 55 years; only 61,292 reach 65; the rest die on the journey.

Those figures look like a fair warning. Little more than half the young men in their twenties to-day will live to 65; doesn't that emphasise the need for one-half to make sure that their old age will be comfortable, and for the other half to provide adequately for their dependents? Whichever way a man looks at the question there is the need to **conserve some of his resources**; to put a definite portion of his income into A.M.P policies so that there will be no regrets.

The A.M.P. Society has policies to provide members with monthly incomes after any specified age; policies to provide monthly incomes to widows or dependents; policies to provide lump sums at death or at any age; policies to pay off mortgages; policies to educate children. Send to the nearest A.M.P office, asking that an experienced adviser be sent to discuss details. If you prefer, details will be sent by post.

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N.S.W. News & Notes

Fruitgrowers' Federation of New South Wales

N.Z. Citrus Embargo — Proposed Fruit Industry Enquiry in N.S.W. — Re-building of City Markets — Orange Export Bounty — Local and Export Marketing.

A MEETING of the Board of the Fruitgrowers' Federation of N.S.W. was held at Watson House, Sydney, on July 29, 30 and 31, 1936.

There were present: General J. Heane (in the chair), Messrs. A. U. Tonking (Orange), T. A. Tester (Young), A. E. Herring (Batlow), W. H. B. Wilkins (Yenda), K. H. Todd (Griffith), E. Ray (Bathurst), F. B. Mackenzie (Kurrajong), H. C. Matheson (Grose Wold), P. W. James (Dural), R. F. Arundel (Wedderburn), A. S. Brown (Ourimbah), A. E. Lillicrapp (Mangrove Mountain), A. J. Taylor (Warkworth), J. M. Ballantyne (Kentucky South), H. A. Stevenson (Murwillumbah), L. T. Pearce (Market Representative), and E. E. Herrod (Secretary).

The meeting faced a particularly lengthy agenda. It is certain that on no previous occasion has the Federation being confronted by so many difficult problems, and equally certain that on no similar occasion have members of the Board approached their task with more energy and enthusiasm.

New Zealand Embargo.

Among the most important matters to be dealt with, priority must be given to the New Zealand embargo, discussions immediately being centred around an enquiry which is soon to be held in that Dominion. The Committee of Inquiry will comprise: Mr. A. Coleman, Barrister at Law, Chairman; Mr. J. A. Campbell, Department of Agriculture, N.Z., and J. E. Thomas, Department of Industries and Commerce, N.Z. Proceedings will be held in camera, and will take in all phases of the whole fruit industry.

Whatever the prospects of success as a result of the delegation appointed to visit to New Zealand, the opinion of Board members is that the key of the position is now possibly held by the fruitgrowers of the Dominion, and that an effort must be made to win these men by adopting a tactful attitude.

The delegation from N.S.W. will comprise: General Heane, President, and Colonel Herrod, Secretary. Alternate delegate, Mr. F. B. Mackenzie.

The whole issue is incredibly involved, but growers can rest assured that the strongest possible case for opening the New Zealand market will be presented. For many many months past, in anticipation of such an inquiry, and as part of the strenuous fight that the Federation has been making to have the embargo removed, a vast file of documents has been compiled. On evidence, therefore, we may win, but interests other than fruit are to be taken into account.

Fruit Industry Inquiry.

Regarding the motion passed at Conference demanding a commission to enquire into the fruit industry, with a view to stabilising same, and with particular attention to markets and marketing, a delegation was appointed to press this request through the proper channels.

City Markets.

A letter was read from Batlow Packing House, suggesting that the serious consideration of the Board be given to the question as to whether it would not be wiser to oppose the erection of new city markets at the present time and to press for the creation of a Trust or Commission for the purpose of administering the City Fruit Markets on the grounds that if a decision could be obtained from the Government favoring the creation of a Trust of that kind, the question of the new City Markets would be better dealt with by such a body.

The Board decided after discussion to wait by deputation on the Government to urge the creation of a Trust or Commission as instructed by the recently held General Conference. The Board, however, is in favor of the City Council proceeding with the proposal to build a new vegetable market and so provide more adequate accommodation in the fruit market. The question of the re-organisation of the whole of the City Markets buildings was discussed, but no definite decision reached as it is understood that the City Council proposals at the present time are confined to the erection of a new vegetable market and the partial re-organisation of the fruit markets to provide more space for roadways.

Fruit Consultative Committee.

A report was received of a meeting convened by the N.S.W. Chamber of Fruit and Vegetable Industries, at which a decision was reached regarding the formation of a Consultative Committee. The Board decided that it could not see its way clear to become actively associated with the agents by joining such a committee, but will be pleased to co-operate on all matters affecting the fruit industry.

Australian Growers' Organisation.

It was proposed that the Board should take the initiative in the formation of a Council of Australian Fruitgrowers' Associations comprised of the principal growers' organisations in each State; and that a conference of delegates be arranged at a suitable time. This was carried—the matter to be placed on the agenda of the Interstate Conference to be held in Adelaide later in the year.

Orange Export Bounty.

A report was received in respect to the Federal Government's decision to renew the Orange Export Bounty for this year on the same conditions as those which prevailed last year, but it was decided to approach the Government with a view to securing an extension of the conditions to cover the payment of the bounty on all citrus fruits exported to all countries other than New Zealand.

It was further decided to make representations to the Government to modify certain of the conditions, particularly those dealing with pre-cooling, as it was considered that

A heavy blossoming of Apricots at "Dunalpine," Leeton, N.S.W.

fruit should be accepted at Sydney at the mean temperature at time of shipping in view of the fact that Sydney being the first port of loading such fruit necessarily went through a stage of pre-cooling before arrival at other ports in Australia at which fruit may be loaded into the same holds.

Complaints regarding the non-payment by exporting agents of the additional 6d. per case granted by the Government in respect to the 1934 season were received, but in view of the complications, it resulted in a resolution that the Federation could not take further action unless placed in possession of the full facts of each case.

Synthetic Fruit Drinks.

It was resolved to again ask the authorities to forbid the use of the names of fruits and the display of emblems of such fruits on the labels of containers used for synthetic juices and essences.

Export of Immature Apples.

Considerable discussion ensued on reports relative to the export of immature Granny Smiths, and a motion from the Bathurst Association was submitted to the Board having for its object the institution of some form of restriction to prevent such a practice. Mr. Herring suggested that N.S.W. was not necessarily the offender as in the month of February, which was probably the only month during the which fruit could be shipped which was immature, the other States shipped rather heavily as the following figures will indicate.

Tasmania shipped during February 182,000 bushels; Victoria, 63,000; South Australia, 60,000, and N.S.W., 31,000.

It will be seen, therefore, that N.S.W. shipped only about one-seventh of the fruit, and as practically all this fruit came from the early-maturing districts, such as the Murrumbidgee Irrigation Areas, it was quite conceivable that the other States were the offenders rather than N.S.W.

Compulsory Waste Fruit Pits.

When the matter of making compulsory the use of pits for destroying waste fruit was discussed, it was decided to refer the matter to the districts so that each could make their own decision.

Malpractice by Agents.

In spite of the protest made through the press by agents through their representative organisation, the Board was faced with a number of reports of recent prosecutions of agents for malpractices, and it was decided to approach the Government Department responsible for the administration of the Farm Produce Agents' Act with a request that agents upon conviction of dishonest practices should have his license cancelled immediately, and also refused further registration.

NEW SOUTH WALES.

Crop and Market Notes.

The Fruitgrowers' Federation of N.S.W. advises as follows under date August 26, 1936:—

THE recent high winds on the coast have done considerable damage in the citrus districts, owing to the resultant falling of Navel and other Oranges. In some instances the whole of the crop which had been left hanging for later markets has fallen. This has had the effect of materially increasing supplies on the Sydney selling floors. Heavy supplies of Navels continue to arrive from the Murrumbidgee Irrigation Area and there are indications that there is a considerable quantity yet to come.

The harvesting of the Valencia crop has begun on the coast and inland for export. The "Taranaki" is sailing on September 1 with some 10,000 cases of export Oranges.

The spell of mild weather in the past three weeks has caused an early bud burst on the coast, and it would appear that unless there is a setback of cold conditions, most fruit will be slightly earlier than last season.

There are no indications that thrips are likely to be of any importance this year, whilst the prospects for all stone and pome fruits are promising for a substantial crop. This applies to most districts in the State.

Apple and Pear Export.

In view of the method which has so far been adopted in fixing the export quota of Apples and Pears, the proportion of fruit which can be exported from this State is likely to be materially less than the situation will demand, as owing to last season's misfortunes, the quantity exported was so small that this season's figures are likely to be fixed at a level which cannot be satisfactory to those requiring export. This is a matter which will need the early consideration of the Apple and Pear Council at its meeting in Adelaide.

An indication of the

Trend of Plantings

this season is given by the fact that nurserymen report a heavy demand for William and Packham Pears. Since improved methods of preparing for export have been introduced, prospects for payable sales overseas have increased, and there appears room for substantial expansion in that direction.

The Value of Almonds.

Another crop which has been largely engaging the attention of inland growers, mostly on the Irrigation Area, is the Almond, where a large acreage has been planted in the last few years. Hitherto the State production of Almonds was negligible, and most of its requirements had to be filled from South Australia and overseas.

N.S.W. CITRUS GROWERS' DEFENCE ASSOCIATION.

At a recent meeting of the Executive of the N.S.W. Citrus Growers' Defence Association, a resolution was carried approving of the decision of the Privy Council in the James (Dried Fruit) case.

It was decided that the President of the Defence Association, Mr. Walter Black, visit Adelaide to put before in order to place the views of the Association before the conference which was convened to deal with the question of an Australian Citrus Advisory Council. Mr. Black dissented from the decision to form this Council on the lines suggested.

STRAWBERRY VARIETIES IN N.S.W.

The principal varieties of Strawberries grown in N.S.W. are Gandy, Ettersburg 89, Rhode's Special, Hackett's Grant, and Melba.

BANANA MARKETING.

Policy of Board Defended.

The validity of the Banana Marketing Board's policy was not affected by the outcome of the James' case, said Mr. A. Stevenson, chairman, at a meeting of Banana growers recently held in Coff's Harbour, N.S.W.

After hearing Mr. Stevenson's reply to complaints in regard to the grading of fruit, and to his explanation of the Board's policy, the meeting recorded confidence in the Board and appreciation of its efforts to control marketing. The chairman urged growers to send only the best quality Bananas to the markets as poor quality had a bad effect upon the trade.

Meetings held at other centres expressed satisfaction with the operations of the Board since it assumed control of marketing.

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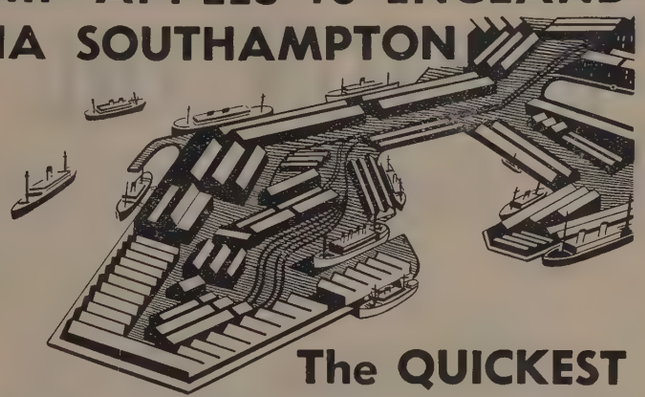

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Orchardists & Cool Stores Association

Quarterly Meeting

WITH AN ATTENDANCE of 23, on August 25, the Orchardists' and Fruit Cool Stores' Association of Victoria, held their quarterly meeting, which was marked by the consideration of some very important matters. The following delegates attended: Messrs. F. Moore (Blackburn), President; H. J. Noonan (E. Doncaster), Secretary; J. H. Lang, and H. M. McLean (Harcourt); J. Tully (Sen.), A. T. Tully and J. Williamson (West Doncaster); J. J. Tully, F. Petty and A. Thiele (Orchardists); J. Stevens (Blackburn); G. F. Fankhauser (E. Burwood); A. D. Finger and F. J. Byrne (Wantirna); H. J. Williams (Ardmona); T. H. White (Somerville); R. H. Gent (Kyabram); L. G. Cole and H. J. Willoughby (Tyabb); C. G. Gill (Box Hill); Herb. Petty (private store, Doncaster); F. C. Pyke (private store, Ringwood), and F. Petty (Tecoma).

After routine business had been disposed of, the consideration of correspondence included:—

Taxation: Mr. Gent introduced the matter of taxation chargeable and the depreciation values allowed on cool stores. The Secretary read communications from the Taxation Department, and stated the Executive is continuing negotiations with the Department regarding the matter.

Railway Freights: The Executive had approached the Railways Commissioners, requesting a reduction of freight upon fruit for export. Reply received that the Commissioners regretted their inability to make any reduction.

Duty: Correspondence between the Executive and the Minister for Customs re duties upon timber for fruit cases and fruit spraying oils. The Minister advised that these items will not be affected in the new tariff schedule now being considered. Letter received.

Breakdown Insurance: Correspondence received from Royal Insurance Company in reference to breakdown insurance. Several suggestions were made, and comparisons reported, and it was decided to leave the matter in the hands of the Executive.

Sales Tax on Keros: Delegates objected that although certain equipment, such as sweat boxes and drying trays for use in the dried fruit industry were free of sales tax, picking and storing boxes for orchardists' use were subject to the tax. The Taxation Dept. had been approached by the Executive and had advised that the remission of the tax would be considered when the next Budget is being prepared. Matter left in hands of Executive to follow up.

Codlin Moth Control: Correspondence from the Secretary, Council for Scientific and Industrial Research advises that much attention is being given to the control of codlin moth, but in addition they recommended to orchardists the following:

"The loose bark on trees should be removed and the cracks filled up, so eliminating the natural sites for pupation. Bandages should be placed around the trunks of trees. These, however, are merely supplementary to the use of poison sprays."

General Business.

The suggestion that the engineers employed in the various cool stores should be organised into an Association in the interests of the industry was generally approved, and the Executive was instructed to call a meeting of engineers to consider the matter. In order to relate such an association to the Orchardists' and Cool Stores' Association, however, the Executive was instructed to arrange that the Secretary of the Cool Stores' Association shall be the Secretary of the new Association, if and when formed.

Grading Regulations: The President presented a brief outline of the proposed new grading regulations which recently appeared in the "Fruit World," and which had been circulated to members. Report received.

Publicity: Mr. F. Petty spoke upon the necessity for an advertising campaign to increase the consumption of Apples. He quoted instances proving that such campaigns had greatly increased consumption, and statistics which showed that if the total population ate one Apple per day there would be no need to export any Australian Apples. It was felt that a small advertising scheme should be authorised, and that the medium for the first effort should be the "Herald." Several delegates promised financial support, and the Executive was authorised to advertise in the "Herald," once per week for three months at a total cost of £60. It was further recommended that all stores be levied 2/- per 1,000 cases to cover this expense. This motion by Messrs. J. J. Tully and Finger was carried.

Electricity Charges: Following a recommendation brought forward from the Executive, Conference appointed a delegation to interview the Electricity Commission in an endeavor to secure a reduction of charges for power. It was suggested that a rate might be struck for power on a daily basis, which matter has already been put before the Commission.

The Secretary was instructed to forward a letter of condolence to Mr. W. Hutchinson in his recent bereavement by the death of his brother.

The President announced that at the next quarterly meeting, papers would be presented on "The Direct Expansion System in Cool Storage."

A little girl had done very well in the second grade, and was promoted to the third. On meeting her former teacher, whom she had liked very much, her first words were—"I wish you knew enough to teach me next year."

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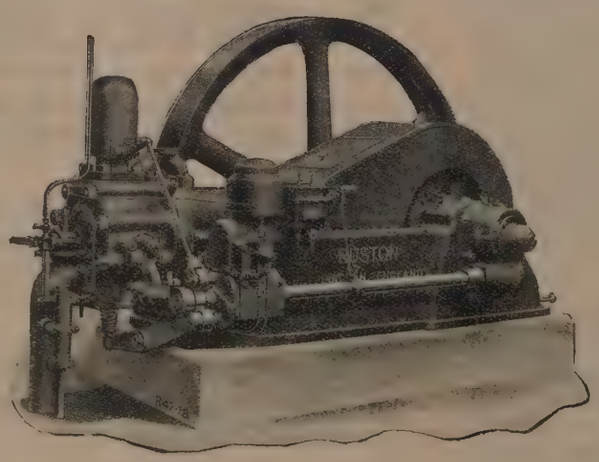

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MID-MURRAY NOTES.

Early Bud-burst on Grape Vines — Beans Displacing Peas as a Cover Crop — The Value of Tractors — Pest and Disease Control — Re-conditioning Old Currant Vines.

RENMARK, August 20, 1936.

ON PRESENT APPEARANCES we are going to have an early bud-burst in our vine fruits, as they are already about three weeks more forward than at this time last year. This is probably due to the fact that following on 2¾ inches of rain during July, August came in with much wind, and warm days, indicating real early Spring weather. This amount of rain during July is the heaviest fall for the month for about 25 years, the nearest fall being in 1916, when we had 219 points. From January 1 to the end of July, we have had rain amounting to nearly the yearly average fall for this locality—about 10 inches.

Almond blossom came out in early August, and provided a beautiful sight for the eye; as these trees are planted as a borderline of many vine blocks, the landscape became gay with insect and bird life.

Through the blossom could be seen the dark green coloring of the bean cover crops, trellis high, with just the tops of posts visible.

We hear of people going to Japan to see the Cherry blossom, but we hear nothing to induce people to see our own country at blossom time.

Some

fine crops of Beans

are now being ploughed under, and this legume has completely displaced Peas as a cover crop. In every way it has proved more suitable to our conditions, both for the bulk of material, and the ease with which it can be ploughed under, even with a single-furrow mouldboard plough.

In recent years a very forward movement has been made concerning the practice of growing a yearly cover crop. While years ago, it was an exception to see a cover crop grown, it is now an exception not to see one.

In some cases growers have adopted the principle of

planting every alternate row

with Beans and ditching the other row for the disposal of vine cuttings, planting a late legume in the ditched row, while others have planted a cover crop in every row, and throwing the vine cuttings on top of the growing Beans, disposing of all these by means of a tractor and rotary hoe.

The rotary hoe cuts up the cuttings in small enough lengths so as not to interfere with subsequent cultural operations, and also makes a satisfactory job of "chewing" up the Beans. There are not enough rotary hoes at present in this area capable of coping with the demands of growers, and those who have them are kept working long hours.

There is still a great reluctance on the part of the average grower to part with his horses in favor of a mechanised outfit. There are varied views on the practical application of

tractors in the vineyard.

One man who had worked tractors for nine years has now gone back to horses. Another contrasting view is expressed by a grower that if he had to go back to horse work he would give up fruit growing.

Yet another grower told the writer that he paid for his tractor by working it for others, and although only possessing a small block, considers it pays him on a small area. One thing is certain, that tractors will have to come down a good deal in price before they will replace old "Dobbin."

At the meeting of the Renmark North and Chaffey branch of the Agricultural Bureau held on August 18, Mr. L. Laffer, B.Ag.Sc., gave an address on **"Diseases of the Vine and Fruit Trees."** The speaker said that in dealing with all pests, it was necessary for fruitgrowers to become conversant with the life habits of all insect pests, to know the why and wherefore of fungoid growths, as this would help them to understand the control measures. Sucking and chewing insects have to be attacked in totally different ways, and a knowledge of the habits of each type is therefore necessary.

Mr. Laffer then dealt with spectacular instances where biological control of insect pests has been effective. The speaker mentioned the difficulty in combating aphis in our area, owing to the weather conditions seldom being cold enough in the Winter to kill the wingless forms, **Peach aphis**, having a good deal of Winter feed available in the form of thistles and Tick Beans, Tick Beans being grown to such a large extent for cover crops.

After elaborating extensively on the diseases of vines and fruit trees, and their treatment, Mr. Laffer demonstrated the correct method of preparing Bordeaux mixture, which is universally used in the control of Black Spot and other fungoid diseases,

Mr. L. Moss, who occupied the chair, presented the trophies won by the successful competitors at the dried fruits display held recently. Mr. H. Newstead won the prize for the best hot dip Sultanas. Mr. W. Giles received the prize for the best cold dipped Sultanas. Mr. D. Winder won the trophy for Currants, and Mr. Le Lue won the trophy for the best sample of Apricots. Mr. Moss also presented a life membership certificate to Mr. F. Hooper, who has been a Bureau member for 21 years, and during that time has occupied the position of chairman, vice-chairman, and committeeman in the Renmark branch. Mr. Hooper comes of good old English yeoman stock, and is one of our sound horticulturists, and deserves the honor conferred upon him

The branch has been successful in obtaining a grant of £10 from the Renmark Community Hotel for the purchase of books of a scientific nature which will assist growers in their work. The books will be housed at the Renmark Agricultural High School for the benefit of the staff and scholars, also for the members of the Bureau. Dr. E. Meier (agricultural master at the High School), and Mr. O. Weste were delegated to choose the books.

Growers in these parts are accepting the practice of **re-conditioning old Currant vines**, and a good deal of work in this direction has been done this Winter.

It seems that in the course of years, the constant cincturing of this variety of vine has a weakening effect on the top structure of the vine. This effect was accentuated by a severe freeze in 1927, from which the vines have not fully recovered, and fell off in production in the succeeding years.

Two methods of re-conditioning have been adopted.

The first is to train a sucker from a place below the cincture cut, and as near the ground level as possible, which, when it is strong enough, takes the place of the main vine, and the old vine is sawn off.

In this method of re-conditioning it has been found best not to cut off the old vine too close to the young sucker stem; as a big saw cut invariably causes a certain amount to die back where the old butt is sawn off.

The second method of reconstruction is to take a sucker from the old vine and layer it some few feet from the old vine so as to create a new rooting system, in which case the old vine is completely grubbed out.

Both systems of reconstruction have been in use for a few years now, but it is too early yet to say which method has the greatest advantage. I am personally rather inclined to favor the layering method for two reasons. The first is that the young layer commences from a new feeding ground and deploys its roots in fresh soil. While the second reason is the lowering of the rooting system where the vines are on a slope.

In the course of many years, irrigation, a certain amount of soil erosion is inevitable; caused by a rapid downward rush of irrigation water. The principle of reconstruction in

Cultivating a block of 6-year-old Delicious Apples at "Floresco," Shepparton East, Vic.

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After three years of reconstruction work on my own vines, I cannot pass a definite opinion on which system will eventually stand the test of time, and am only slightly in favor of the layering system on theoretical grounds. Up to the present, production from both systems are fairly even.—"Nemo."

IRRIGATION AND DRAINAGE.

Renmark, August 25, 1936.

On Monday, August 24, Mr. A. V. Lyon, B.Ag.Sc., addressed a meeting of about 100 growers on the subject of **"Irrigation and Drainage,"** and several other matters of special interest to producers in these irrigation settlements. The meeting was held under the auspices of the Renmark North and Chaffey Branch of the Agricultural Bureau. Mr. Len Moss occupied the chair.

A matter of special interest was introduced in the form of lantern slides, showing charts and graphs of the movements of irrigation water at various times during an irrigation.

By means of charts, the movement of salt, through the application of water, was closely followed. One of the most outstanding illustrations was demonstrated in showing the downward penetration of irrigation water by the furrow system. These percolation profiles showed how some of our lighter types of soil could be irrigated in from 4 to 6 hours, while in nearly all types of soil 6 to 8 hours has proved quite long enough to ensure full crops to be harvested.

The method adopted by the investigation officers of the C.S. & I.R. is to allow one outlet to each furrow, and aim at getting the water from the head ditch to the footland in an hour, and then slacken the stream, allowing it to soak for just sufficient time to allow the moisture to penetrate the soil to a depth of the rooting zone. Mr. Lyon said that **in the majority of cases in nearly every irrigation settlement, over-irrigation is still in progress, and what was the use of putting more water on the land than was needed, building up a harmful water table, and then having to resort to drainage. It is much better not to put it there in the first place.**

A striking example was explained by Mr. Lyon by the manner in which the Red Cliffs growers had reduced their time of irrigation through adopting a sounder system of irrigation in the last year or two. Some years ago it took six weeks to irrigate the 11,000 acres in that settlement, but last year they were able to get through an irrigation **in from 15 to 17 days,** simply through the more intelligent interpretation of modern irrigation practices. This has been accomplished without any additional pumping facilities, and the lesser amount of water used has in no way reduced the crop returns.

The inevitable result of

Applying More Water

to the land than is necessary has led to many drainage schemes; the most ambitious being in the Mildura area, where, at a cost of of £400,000, about 30,000 acres of land are being drained. This gigantic scheme, Mr. Lyon explained, was about half finished now, and has already been of great value where connections have been made to the main drains.

The speaker said that at Waikerie, S.A., a system existed which was unique in drainage schemes in the State, and was working quite satisfactorily.

A well is put down to a depth of about 20 ft., and from there, a 6 in. bore is continued to about 100 ft., through limestone stratas, which finds a natural getaway to some unknown region. One of these bores put down on the property of Mr. J. Smith has been working so satisfactorily that it was possible to reclaim land which had become totally unproductive, through excess water accumulation.

There are now 12 of these deep-seated wells in the Waikerie area, all of which are functioning. Dealing with the salt problem, Mr. Lyon said that "a good deal of our virgin land contained a high percentage of salt, and that when irrigation water is applied, it begins to move, because salt will only move through the agency of water. There are extreme changes which take place in the distribution of salts through the application of irrigation water. Salt moves down by the application of water, but if too much is applied then it moves upwards, through capillarity." The

Downward Movement of Salt

was illustrated on a chart taken from irrigation experiments carried out at the Merbein Research Station. An interesting chart showing the movements of soil nitrates was thrown on the screen. It appears that during the growing period of a cover crop and the nitrification of a cover crop when ploughed, under soil nitrates are at a low ebb, but commence to rise about October, and showing a miximum during December, after which there is a gradual decline. Thus we find that the practice of applying artificial nitrogen before bud burst, just at a time when the soil nitrates are low, has a very sound backing by our scientific brethren.—"Nemo."

Two neighbors were discussing a newcomer to the street. "A bit of a spiritualist, isn't she?" one remarked.

"Well," her friend replied cautiously, "I shouldn't be surprised—but, in fairness, I must admit I've never seen any bottles going into her house!"

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Frost Prevention

Direct Heating and Subsidiary Preventive Measures

A.D.F.A. Arrange Conference.

THE problem of frost prevention by the use of direct heating and subsidiary preventive measures was further dealt with at a conference held under the auspices of the Australian Dried Fruit Association at Mildura on August 10.

Mr. J. H. Gordon, of the Board of Management of the A.D.F.A., occupied the chair, and Mr. E. S. Creaton was secretary.

The members of the conference, representing the best knowledge available in the three States (S.A., N.S.W. and Vic.), on the many features of the problem were as follows:—Government Departments, Mr. A. V. Lyon (officer-in-charge of the Merbein C.S.I.R. station), Mr. E. C. West (officer-in-charge Griffith C.S.I.R. station, N.S.W.), Mr. J. B. Harris (Horticultural Instructor, Department of Agriculture, S.A.), Mr. McCutcheon (Curlwaa, N.S.W., of the Department of Agriculture), Messrs. Duncan-Brown (Woorinen), and Roberts (Department of Agriculture, Vic.), and Messrs. J. Milne and A. R. McConchie (of the State Rivers and Water Supply Commission and Closer Settlement Commission, respectively); Growers: Messrs. E. S. Creaton (Mildura), J. E. Taylor and W. Heaysman (Red Cliffs), S. H. Maddern (Berri, S.A. frost committee), F. R. Francis (Waikerie frost committee, S.A.), B. Boehm (Light's Pass, S.A.), E. L. Hodge (Cadell, S.A.), G. McCracken (Irymple, Vic.), and W. Eagle (of Harcourt, Vic.).

An apology was received from Mr. E. Pescott, of the Victorian Department of Agriculture. Representatives of the Shell Oil Company and Mr. Egan, maker of the briquette heaters and representing the Electricity Commission, were present. Mr. J. Stewart, organiser for the A.D.F.A., whose services were made available by the Association to convey delegates from S.A. to the conference, was also present.

A number of growers who were interested in the work attended.

The Chairman, in opening the Conference, said that the A.D.F.A. was appreciative of the co-operation of the Departmental officers, Mr. Egan, the Shell Co., and the State Electricity Commission, Vic., and those growers who had given time to the work. There was no doubt as to the value of heating—vines and citrus had been saved. It must be realised that much had yet to be done, and all concerned were asked to continue the detailed work of gathering data.

This applied to all growers who had heating plant. There were wide differences of opinion among growers as to types of heaters, the number to be used per acre, the danger point for the various fruits, etc. The recommendations of the Conference would be the result of a considerable amount of tests and investigations of opinions from other countries and represented the fullest knowledge available to date. The true test of the various layouts, fuels, etc., could only be made under Spring conditions when vines, trees and other plants were susceptible to damage, and, in the event of this happening, the various groups represented at the conference had preparations made to collect data that would probably enable the committee to give a very definite finding on several points that it is unsafe to be arbitrary on at the present time with the limited knowledge available.

A very interesting and informative discussion took place and the advantage of bringing together the members of the conference was apparent. It was very satisfying to realise the effort and study that was being directed towards the problem, and growers can feel secure in the knowledge that everything possible is being done.

A Sub-Committee was appointed to draw up a recommendation that would be tantamount to the consensus of the opinions of the conference. The recommendations are as follows:—

The Principle of Direct Heating.—The use of direct heating is essential and will save fruit crops. The principle of the method can be set out as follows:—

The heat generated by the burners does not escape into the upper reaches of the atmosphere, nor is it intended to any appreciable extent to warm the plant by radient heat—but will only rise to the height where it meets air of a corresponding temperature (the ceiling), which in average Spring conditions would be from 10 to 25 feet up, after which the heated air, being unable to escape to higher levels, gradually fills up the space between the "ceiling" and the ground.

As the air surrounding the plants is warmed, cold air will move in from adjacent areas and the further function of the heating is to warm up this air as it comes in. The practice of banking additional heaters on the sides where the main drift comes in is brought about for this reason.

Under actual dangerous conditions there is need only to develop sufficient heat, either by the number of burners or by retarding the burning rate of the burners, with the use of dampers, that will keep the temperature at a safe point. There is nothing to be gained by unduly raising temperature with the consequent loss of fuel that might be needed later in the night.

The Temperature at Which to Light Heaters to Ensure Protection. — The results of experience to date are such that it can be stated that the following temperatures, under which delay in lighting would involve risk, are critical:—

Sultanas.—Reading taken on a sheltered thermometer (see notes on this), three feet from the ground, or equivalent to the height of the middle wire.

Bush Vines.—Readings taken at a height equal to susceptible shoots. Critical temperature 32 degrees Fah.

Apricots.—Readings three feet from the ground. Critical period—at full bloom 31 degrees; at setting period 32 degrees.

For other fruits no definite results were available from actual tests described to the conference. However, tables are available from the bulletin "Frost Risks and Frost Forecasting," by W. S. Watt, Commonwealth Meteorologist.

Probable Safe Low Temperature Limits for Different Trees.

Kind of Fruit	Buds Showing Color	In Full Bloom	Fruit Setting
Apples	27	29	30
Apricots	30	31	32
Almonds	28	30	31
Blackberries	28	28	28
Cherries	25	28	30
Grapes	31	32	32
Oranges	30	30	—
Lemons	—	32	30
Pears	28	29	30
Peaches	25	28	30
Plums	30	31	31
Prunes	30	31	31
Raspberries	28	28	28
Strawberries	28	28	28

Fuels and Heaters Suitable for Certain Conditions.

Spring Conditions.

In view of the capricious nature of the Spring frosts, when the temperature might rise rapidly after getting down to danger point, it is considered that the fact of being able to put out the oil fire without loss or trouble and again light if necessary, is a factor that makes the oil heater much more suitable for these conditions. Instances have occurred where settlers have put out fires due to a rise in temperature, only to be faced with the necessity to light again, due to an unexpected fall later. Under such conditions it would be a very difficult problem with briquettes. The briquettes have to be tipped out, and the oil simply damped, to prevent further burning.

Recent trials indicate that the rise in temperature and the rate of such rise favors oil. Costs and details are dealt with later.

Winter Conditions.

Where long hours of burning are necessary under Winter conditions, the briquette heater and fuel appears to be more economical, provided that similar temperature rises can be obtained. The capital outlay is costly, whilst the fuel is cheap (for Victoria) and if sufficient use is made of the heaters during the season the saving in fuel costs will compensate for the interest and depreciation on the more costly plant. (See notes on costs).

Heaters to the Acre.

Evidence shows that the number of heaters per acre varies in trials to date from 20 to 120 where oil is used, and from 50 to 60 with briquettes—a partial save on young shoots being claimed with 20 and a rise of 17 degress definitely being obtained with 120. In view of recent experiments and information from other sources, approximately 60 oil heaters to the acre is recommended as being the number necessary to control the type of frost generally experienced in the main growing areas for vines and deciduous trees. Where isolated portions are subject to extra severe visitations more might be needed, and for light frosts fewer would suffice. However, with 60 oil heaters it should be possible, by lighting a certain number, to control an average frost and by careful consideration of readings, to hold the temperature, with the advantage of having the power to further lift the temperature by lighting the balance in the event of an increase in the severity of the frost, causing a fall near to danger in the heated area. This is a matter in which the co-operation of all growers and those handling the heating plant is essential, for, as stated above, the true test can only be obtained under local conditions, during the danger period, when results would be very definite on the plants subject to damage.

(Note.—The heaters referred to above are the five-quart type that hold one gallon without danger of loss. The general principle in the use of heaters is that better effect is ob-

FROST!

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against . .

Frost Damage

by using the

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MOST EFFICIENT and CHEAPEST

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tained with a certain number of small fires than with a smaller number of large ones.)

Type of Thermometers.

A good deal of confusion can result if the method of reading and using the thermometers is wrong. A good type instrument is essential.

A Negretti and Zambra minimum thermometer, as used by the Commonwealth Weather Bureau, is recommended as being the best for use as a main check on all others on the area being heated.

Good mercurial thermometers can be used for ordinary observations.

Ordinary of minimum thermometers with colored spirit column are unreliable unless placed in wooden shelters, otherwise the readings may be several degrees too low at night, owing to excessive radiation on clear nights. All thermometers should be placed in a shelter—(see footnote for description)—facing the south and at a height equal to the lowest level of the crop to be protected.

Ground readings are erroneous; an instance of this being shown by tests taken by Mr. West, of Griffith Research Station, where it was found that thermometers, placed as follows, read:—Grass, 14.6 degrees, cultivated ground 18.5 degrees; uncultivated ground, 20.6 degrees.

Alarm Thermometers.—Recent findings would indicate that there are certain weaknesses in the "U" type of this instrument. Failures have resulted, and advice from America bears this out. Growers are advised to read a publication by Mr. Harris, of the Department of Agriculture, S.A. "Bulletin 292: Frost Prevention by Orchard Heating" (pages 11 and 12), which deals with this matter. Information on this aspect is available from Mr. Harris.

Care must be taken to avoid the effect of a naked light on the column when reading thermometers. An electric torch is advised.

Wooden Shelters.

Two pieces of rough timber 18 inches by 9 inches and 1 inch thick, painted a flat white and joined to form an "L," then attached to a red gum post, the bulb of the thermometer to be 1½ inches from the vertical board and 2½ inches under the horizontal board and within 4½ inches of the ends of the boards. Thermometer to be open to the south.

Sudsidiary Agencies.

(a) The consensus of opinion was that standing cover crops accentuated the severity of frosts, and they should be turned down before the local frost period occurs. (b) The accepted opinion was that cultivation should be avoided as much as possible during the danger period. (c) The nearer irrigation water can be applied to the frost period, then the greater degree of safety. (d) The destruction of timber fringes round frost affected areas assists in controlling frost. (e) Very late pruning, about 10 days before sprouting, retards sprouting. This may be of value in sections particularly liable to frosts.

Note on (b).—It is also advisable to avoid the working of land where damage to roots would take place a week or two before the frost period. The general practice should be to cease this work about a fortnight before bud burst on vines, and not do any further work until about October 15. If irrigation is available just previous to bud burst, work could be carried out a little closer to the danger period.

Note on (c).—Irrigation at the proper time (first week in September) is a big advantage in that it gives the vine a rapid flow of sap greatly assisting it to withstand the cold. The vital tonic effect of the fertilisers applied to the soil is made more readily available to the plant and stronger shoots are formed. Wet ground will not give off its warmth so quickly. All water authorities should be seized with the importance of this feature of protection.

Note on (d).—Recent tests indicate that timber should be cleared at least half a mile around the areas subject to damage. Differences in temperature up to 6 degrees have been found between mallee belts and cleared land, on the same level, half a mile away.

Frost Forecasting.

Arrangements are being made to have more detailed warnings sent out to growers. Details of this will be notified in the newspapers in the areas concerned.

Organisation of Alarms.

The use of the alarm thermometer in groups is advised. In certain areas growers have an arrangement whereby one alarm thermometer is used to warn a number and an arrangement is also made with the local post office to ring certain men who, in turn, warn others. By this arrangement a good deal of concern is avoided.

Costs.—The following are the actual operating costs, excluding labor, which in areas up to three or four acres would be covered by that of the individual. The question of interest and depreciation is one that depends on the life of the heater. Briquette heaters cost aproximately 6/- each landed at Mildura, and oil pots approximately 2/-. In large quantities reductions on these prices could be anticipated.

The burning period covered by the costs would be approximately three to four hours, which would be enough to deal with the average Spring frost. If longer burning were necessary the cost of the added fuel would be in proportion.

These figures should be read in conjunction with reports of tests previously published.

Briquettes:—

F.o.r. Melbourne, £1 per ton.

F.o.r. Mildura, £1/18/11.

F.o.r. South Australia, £3/10/-.

The table below is based on a cost of £1/18/11 at Mildura, Handling from station to block would have to be added on the basis of using 15 lbs. to 18 lbs. per heater.

Heaters per acre.	Fuel cost.
40	10/5
50	13/–
60	15/8
70	18/3

Add cost of kindlers, 2/- per acre.

Oil Fuel.—7½d. per gal. in district. Handling to be added on basis of one gal. to heater.

Heaters per acre	Fuel cost.
40	25/–
50	31/3
60	37/6
70	43/9

A reference to the report of the Merbein test will indicate the relative heating values.

Telephone Communication with Departmental Officers.—Certain disadvantages had occurred in the work through officers of Departments who were carrying out trials not being connected by phone, especially at Nyah, Woorinen and Mildura. Following a unanimous vote on this matter it is urged that these officers should be supplied with phones.

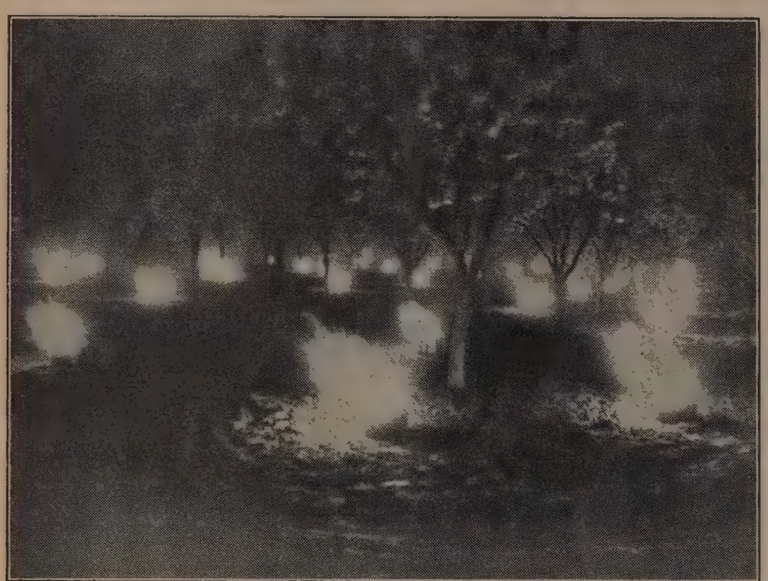
EXTENDED RANGE OF TRACTORS.

Greater Variety of Power Ratings.

Tractor farming is now practised so extensively and enters into so many phases of farming work that it has become necessary to produce, not a single type of machine, but a range of tractors to meet the different needs of farmers operating on small, medium or large areas. With a fleet of tractors ranging from small, compact mobile units to handle ordinary jobs with speed and economy, to heavily-powered, Diesel-engined tractors for the largest operations, International Harvester meets the modern demand at every point.

It is necessary, of course, for every farmer to know the rating of the tractor which will handle his work most economically. The range of McCormick-Deering tractors is such that, with the advice of International Harvester experts, the farmer can fit a tractor to his job just as accurately as a man can be fitted with a suit of clothes. There are no less than nine tractors in the McCormick-Deering range to-day. These tractors include wheel and crawler units in both kerosene and Diesel types. All are triple-power tractors, operating from drawbar, belt or power take-off, and all are equipped with replaceable cylinders. Power ratings vary from 9.44 h.p. to 33.51 h.p. on the drawbar, and from 13.45 h.p. to 44.04 h.p on the belt. Ball and roller bearings are liberally used to reduce friction, special dust-proof seals protect all vulnerable working parts, while fuel, air and oil supplies are automatically purged of all impurities.

All these tractors are designed to facilitate the speedy work so essential in seasonal operations. The wheel tractors are available with regular steel wheels or with low-pressure pneumatic tyres. This range of machines, together with others, will be on view at the Agricultural Machinery Stand of the International Harvester Co. during the forthcoming Melbourne Royal Show.



Oil Heaters in Operation in a Deciduous Orchard

Prevention of Damage by Frost

FOR a considerable time Shell has been interested in Frost Prevention, and has conducted a number of full-scale experiments in Victoria.

Results of these experiments and a host of interesting information collected in other States and from Overseas are embodied in a Free Booklet, which will be sent to you on application to

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X14

GUMMOSIS OF CITRUS TREES.

Cause and Treatment.

A VERY LARGE AMOUNT of gummosis has developed this season in citrus trees which were severely affected by the drought conditions of last Autumn and Winter, states the "N.S.W. Agricultural Notes." The trouble has been particularly severe in the Hills district. Generally speaking, the trees showing most damage are those which have carried a succession of good crops in recent years, and old trees. The Department's Biologist states that the gummosis is a result of drought injury, such as killing of root-fibre, which has resulted in interruption of food supply and weakening of the trees. The ordinary gummosis of Lemons is of the same type and also develops most severely on trees of fair age, which have produced heavy crops for several years.

On Lemons and other citrus trees, growers are advised to adopt a treatment consisting of liberal dressing with manure (preferably farmyard manure) and the pruning back of damaged trees in order to improve their general vigor. Such treatment is advised in all cases in which there is a reasonable chance of bringing the trees back to satisfactory growth conditions.

In the case of more valuable trees affected by gummosis, an additional method of treatment is suggested. This consists of cutting away the areas of diseased bark, together with ½ to 1 inch of healthy bark around the edges of the wound, and then painting with Stockholm tar. Such treatment will prevent any further spread of the gummosis as a result of secondary infection by fungous organisms, but in view of the time and labor involved, it is not recommended in the case of trees in poor condition and of little value.

THE NATION'S DIET.

More Fresh Fruit and Vegetables Needed.

Information so far received by a special Committee which is studying the nation's diet, point to the need for more education as to correct food values. More fresh fruit and vegetables are needed in building the health of the people.

This matter also has an international aspect, as a special Committee, under the auspices of the League of Nations, is studing this question.

It is certain that as the health and food values of fresh fruit and vegetables, also milk, are understood, there will be increased consumption of those commodities to the benefit of the people—especially children, and the producers.

Producers would do well to closely observe all that is transpiring in this connection, and to reinforce the activities of the scientists by utilising the power of advertising to educate the public in the essentials of health.

H. V. McKAY MASSEY HARRIS PTY. LTD.

The exhibit of Sunshine and Massey Harris machinery on the stand of H. V. McKay Massey Harris Pty. Ltd. includes a section devoted to implements for the fruitgrower, including the Sunshine spraying plant, which will deliver 4¾ gallons per minute at 250 lbs. pressure; "Sunslide" springtooth harrows, so called because the nine teeth can be raised by lever and the frame slides on runners; the "Sunglow" low-wheel tyne cultivator is supplied in 7, 9, 11 and 13 tyne sizes, with spring or rigid tynes, and with fore-carriage or pole.

Amongst the disc harrows is the "Sunpearl," which has eight, ten or twelve discs, in two gangs, which can be set to throw the soil either inwards or outwards.

A 10-disc, two-gang harrow that can be extended to a total spread of 10 ft. is the "Suntree."

Vignerons will be interested in the "Sunvine" single furrow plough which will plough the ground right up to the vine stems and posts. A spring mounted fender rod protects the vine stems from possible damage.

A prominent place is devoted to the "Sunbird" orchard ploughs, which are made in the following sizes:—1 furrow with fixed handles; 1 furrow with shifting handles; 2 furrow and 3 furrow.

The "Sungrade" stump jump reversible disc plough is of special merit, features being the draught controlled jump and the adjustability of the discs. "Sungrades" are now being supplied with an extension arm and depth wheel, which permits of a single disc being used right out on the nearside for "ploughing away."

DISPLAY OF ENGLISH FORDSONS

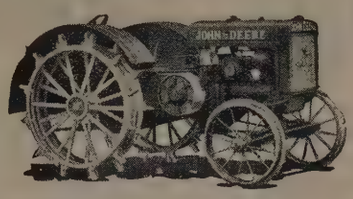
Messrs. Malcolm Moore Limited will have an interesting display of English Fordson tractors and other farm machinery at their stand No. 175 Plummer-avenue, during the forthcoming Melbourne Royal Agricultural Show. A huge pair of scales, 15 ft. high, will be used as an exhibit symbolising trade reciprocity between England and Australia. At one end of the scales will be an English Fordson tractor, representing British farm machinery, and at the other will be bales of wool, wheat, flour, dried fruits and butter, representing Australia's primary products. The theme of this display will be the desirability of trade balance between British manufactured goods and Australia's farm products.

Attractive showcards will illustrate the more prominent features of the English Fordson tractor, which has proved itself in a practical manner in the field in all parts of the world. A product of Dagenham, England, the largest plant of its kind in the Empire, the English Fordson is produced by English workmen and with English materials. It is the only powerful low-priced tractor of entirely British manufacture.

Safe Advice.

A farmer wrote to the editor of a Scottish agricultural paper asking for advice. This is his letter: "I have a horse that at times is quite normal, while at times it goes very lame. What would you advise me to do with him?"

The editor's reply was: "When you have the horse going perfectly normal, sell him!"



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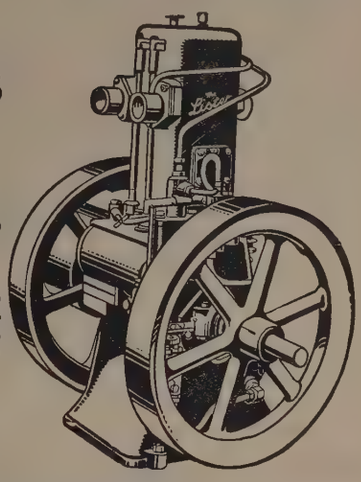

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Canada's Best, comprising Orchard and Farm Plows, Binders, Mowers, Grinders, Pulpers.

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"MOFFATT VIRTUE" FLAME THROWERS.
For eradicating Scrub, Wattles, Blackberries, Etc.

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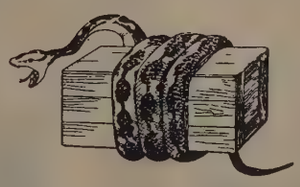

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Soil Deficiencies

"With the continuous cropping of the soil and the use of synthetic or purified chemical fertilisers, we have found in some cases crop yields declining, or crops suffering from malnutrition due to the lack of certain elements which were considered present in adequate amounts in the soil," says R. W. Ruprecht, chemist of the Florida Experiment Station in a recent article in "The Citrus Industry."

He points out that in former days farmers relied on natural fertiliser materials or fertilisers derived largely from vegetable (green manures) or animal sources. These materials provided the soil with essential secondary elements. The increased use of synthetic fertilisers, however, which are deficient in minor elements presents a new problem of practical importance to farmers.

We reproduce below extracts from Mr. Ruprecht's article dealing with this subject:

"There has been a distinct tendency during the past five years or so toward the use of more inorganic and synthetic fertiliser materials due to their lower cost. With the advent of the synthetic high analysis materials there has been a gradual tendency to use higher analysis formulas. In the majority of cases where care was used in making applications just as good results were obtained with higher analysis fertilisers.

"With the continuous cropping of the soil, and the use of synthetic or purified chemical fertilisers, we have found in some cases crop yields declining, or crops suffering from malnutrition due to the lack of certain elements which were considered present in adequate amounts in the soil. In truth, most of these elements while present in most soils were also being added in our fertiliser when these were made largely from vegetable or animal matter and natural fertiliser materials.

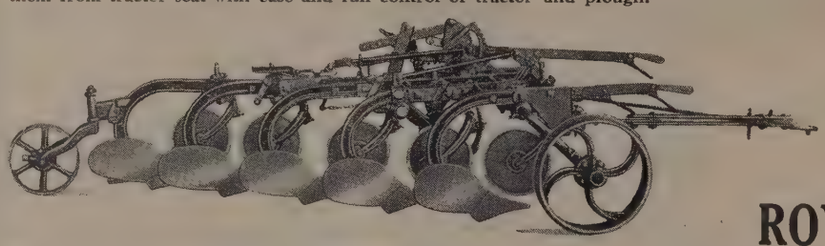
No one realised that in trying to provide the farmers with a higher grade fertiliser at a lower cost, the manufacturers were at the same time robbing the fertilisers of some of the essential elements. Thus we have found that zinc sulphate, copper sulphate, borax, magnesium or sulphur, or a mixture of two or more of these elements, when added to certain soils will correct the malnutrition of the crops grown. Whether or not these elements act as direct plant foods, or act indirectly by correcting a soil condition has not yet been definitely established.

"Another point in the use of fertilisers is receiving more attention, namely, whether the ultimate results of using the fertiliser will affect the soil reaction; that is, will it increase the soil acidity, decrease it, or leave it as it is. With sandy open soils this question is not as important as on the heavier types of soil.

"The subject of acidity of soils and its correction has already been discussed on previous occasions, so will not be further discussed here. It is not enough to say that no amount of fertiliser can produce good crops if the soil is too acid or too sweet for that particular crop. Therefore, before growing a crop, it is always best to make sure that the soil reaction is correct. It is far easier to correct this condition before the crop is planted than after the crop is up and growing."

"Harvey" Power-Lift Tractor Plows

Accuracy of design and strength where necessary in construction enable Harvey Power Lift Tractor Ploughs to "do the job" more quickly and more efficiently than most ploughs. They are so constructed that one man can operate them from tractor seat with ease and full control of tractor and plough.



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Harvey 5-Furrow Power Lift Tractor Mouldboard Orchard Plough fitted with Swing Circular Coulters. A ONE MAN JOB. Made in sizes two to five furrows.

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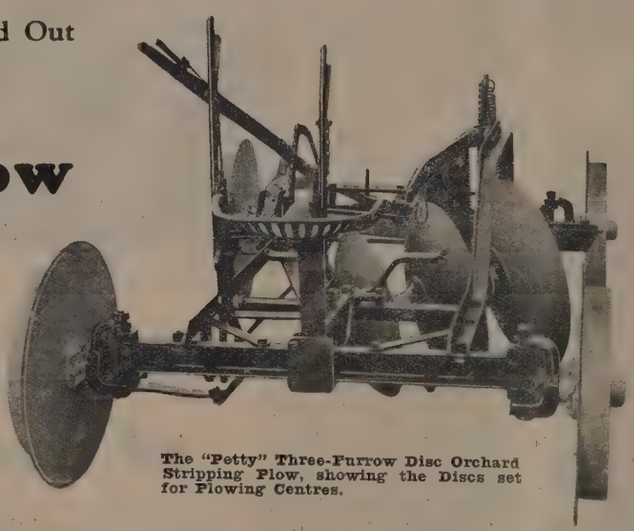
The Orchard Completely Plowed Out in One Operation by the . . .

"Petty" Wonder Plow

Neglected centre strips, no matter how hard or how long unworked, or how much couch grass, plowed out with ease.
A time and labour-saving Implement.
Remarkable ease and quickness of operation.
Unique steering principle.
No strip digging or chipping.
Easy turning in short headlands.
Will plow on or off with the greatest of ease.
Works just as efficiently on the hillside or undulating country as on flat land.
Made in 2 and 3 furrow discs.

The "PETTY" Plow can be converted into a one-way reversible disc cultivator with 5, 6 or 7 plates. Also into an irrigation furrower of 2 or 3 furrows.



The "Petty" Three-Furrow Disc Orchard Stripping Plow, showing the Discs set for Plowing Centres.

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DEMONSTRATING A FULL RANGE OF:

Disc Plows.
Reversible Hillside Disc Plows.
Mouldboard Plows.
Tractor Plows.
Road Plows.
Tractor Cultivators.
Tandem Disc Cultivators.
Drag Harrows.
Grass Harrows.

One-Way Orchard Disc Cultivators.
Two-Way Reversible Disc Cultivators.
Off-Set Tandem Disc Cultivators.
Spring and Rigid Tyne Cultivators.
Orchard and Citrus Spring Tooth Cultivators.

Grape and Berry Hoes.
"Potts" Combined Reversible Vine Hoe and Reversible Vine Plow.
Nursery Cultivators and Scufflers.
Orchard Harness, Single and Double.
Horse and Tractor Subsoil Plows.

Mole Drain Plows.
Fruit Graders.
Prune Graders.
Apple Washers.
Citrus Processing Equipment, Dry & Wet.
Dehydrators.
Tobacco Planters.
"Petty" Disc Orchard Plows.

DO NOT FAIL TO INSPECT THE "HARVEY" BEETLE BACK CITRUS CULTIVATOR

D. HARVEY, Implement Manufacturer, Box Hill, Melbourne, Aust.

SHOWROOMS—440 ELIZABETH ST., MELBOURNE . . 628 BOURKE ST., MELBOURNE. Agents All States.

HOWARD CULTIVATORS.

Company Reports Profit of £10,000.

For the year ended June 30, the Howard Auto-Cultivators Ltd. reports a net profit of £10,776. A dividend of 9 per cent. on paid-up capital was declared, and £14,000 was transferred to the reserve account, leaving £1,191 to be carried forward. Depreciation amounting to £3,000 has been written off.

The directors' report stated that business had increased steadily during the year, and that the output has increased 48.9 per cent. over the previous year's volume. Extensions to the factory had been made, and additional machinery had been installed, Stock had been increased by £15,000, making a total expenditure of £22,000. more employment had been necessary. and the output is still inadequate to fill orders received.

In order to provide for new models, further extensions are necessary, and steps are being taken to increase the capital to provide finance needed for increased business. A new company had to be formed in New South Wales, registered as Rotary Hoe Cultivators Ltd., to handle the selling end of the company's operations.

MARKETING OF CITRUS.

10 Rules Recommended.

The following suggestions are culled from the "N.S.W. Agricultural Gazette" of August, 1936, and are worthy of notice by all citrus producers. The writer claims that good fruit is worthy of careful marketing, and that the orchardist who risks good prices by inefficient picking, grading and packing is very short-sighted, and lowers the returns on his whole year's work. The ten points are:—

1. Exercise extreme care in picking.
2. Place fruit carefully in picking bags.
3. Carefully transfer fruit from picking bag to box.
4. See that the box has no protruding nails or splinters.
5. Do not jolt the fruit over rough roads.
6. Grade carefully for size and quality.
7. See that the sizing machine is functioning properly.
8. Use a clean case.
9. Pack neatly and tightly, but do not squeeze or jam fruit into boxes.
10. Stack cases on sides.

NEW SOUTH WALES.

Crop Reports.

In a report received from the N.S.W. Dept. of Agric. early in August, the following was stated:—

Substantial rains were received and subsoil moisture reserves were replenished throughout inland districts.

Generally, the satisfactory outlook regarding prospects of pome fruits

was maintained. Stone fruits are also very promising and good crops are indicated.

Budding of Apples and Pears is said to be good in coastal orchards. In the Hawkesbury River district, bloom of early varieties of Apricots is satisfactory. Heavy blooming on Satsuma Plum trees is indicated around Windsor, and elsewhere early varieties are mostly forward, and the crop promises well at this stage. Bells November, Watt's Early, and Edwards Peach trees are blossoming freely and good settings should result.

Bananas.

Weather conditions in the main were not favorable. At Macksville, plantations on low-lying lands were affected by frosts, and rain was needed. Many areas around Coff's Harbor were showing the effect of cold weather, particularly those poorly worked or where fertiliser was not used.

Light to medium consignments expected during August. Given warmer weather fruit should mature more quickly at Lismore, and the moderate quantity in sight may be exceeded. In the Woodburn district a medium supply of middle grade fruit is anticipated, although consignments are likely to be increased towards the end of August.

Viticulture.

Conditions throughout the viticultural areas of the State were satisfactory: Winter rains benefited all areas and subsoil moisture is adequate for the present. There appears to be little dry white wine available, although dry reds are fairly plentiful.

MITCHELL AND CO. PTY. LTD.

Almost everything for the agricultural and dairy farmer, orchardist and pastoralist is to be seen on the stand of Messrs. Mitchell and Co. Pty. Ltd. at the Melbourne Royal Show. Their stand is No. 71 Degraves-street, and there will be on view ploughs of all kinds—mouldboard and disc; cultivators of the spring tooth and also the disc type in set and stump jump styles; harrows, set and stump jump; their famous drill-cultivators with rigid tynes that by a patented spring action release on striking an obstruction, and then snap back. This is the type recommended by the Victorian and N.S. Wales Agricultural Department's experts, as being the most effective for providing a level seed bed, securing a more certain and more even "strike." Then there are hoe and disc drills, a new grass and small seed sower that cannot break the seed. It is said to be the only seeder that will sow rye grass. It can be worked behind a pasture renovator or alone, and can be used with a fertiliser sower. Renovating the pasture, sowing and fertilising all in one operation saves time and money.

Orchard implements are shown, and a superior spray plant, powered with a Lister engine.

There are mowers of two types, one with open gears, and one with the gears totally enclosed and running in an oil bath, which automatically feeds oil to the main axle and crankshaft. Oil seals prevent loss of oil and keep grit out. A new mower driven from the power-take-off of a Fordson Tractor automatically stops the tractor when the cutter bar meets an obstruction. The hay and lucerne rakes are light but strong. Stackers, sweeps, and presses complete the line of machines for economic fodder conservation.

.. The .. Home Circle

Child Welfare

By Olive M. Green, Sister-in-Charge, Baby Health Clinic, Launceston.

Constipation.

THE establishment of regular habits in infancy by the right training, diet and care of the child is an important factor in the prevention of this very common complaint. Constipation has been aptly described as the "mother of all diseases," clearly indicating that if the poisons of the body are not eliminated by the bowel they are re-absorbed again into the blood stream, causing serious trouble.

It is well to bear in mind that prevention is always better than cure, so it is necessary to secure at least one daily bowel action for baby, and this habit started in the very earliest infancy will be of infinite value right through life. "As the twig is bent, so the tree grows."

Causes of Constipation.

Constipation is a condition in which the motions are abnormally hard, dry, and infrequently passed. This must not be confused with the condition known as "lazy motions," in which the motions are infrequently passed, but are soft and yellow in texture. Lazy motions are mostly found in breast-fed babies, due to the fact that mother's milk is so easily assimilated and that there is very little roughage therein. They may also be due to lack of proper training on the part of the mother in holding the baby out at regular intervals during the day.

Breast-fed Babies.

Constipation in a breast-fed baby may be due to several causes, but the trouble usually lies with the mother, as a constipated mother makes a constipated baby. The mother should drink more water, take a laxative diet, **including abundance of fruit and vegetables,** and form regular habits for herself. As a temporary corrective for her condition, small doses of liquid Cascara may be taken — say, 10 to 15 drops in warm water, three times a day after meals. Gradually reduce the dose as the condition improves. Cascara is a tonic for the bowel, and aperients which are drastic in their action should be avoided.

The constipated breast-fed baby may be suffering from under-feeding, or the mother's milk may be too rich. Test-feed baby for 24 hours, if possible, and make quite sure he is getting his quota of food. Also, give him extra boiled water between his regular meals, thus ensuring more fluid and diluting any over-richness in the mother's milk.

If baby is still constipated in spite of righting these conditions, use the methods suggested herewith for treating the artificially-fed babe.

The Artificially-fed Baby.

Constipation in bottle-fed babies may be caused by overfeeding, underfeeding, a wrongly-balanced diet, too strong a mixture, insufficient fat or too much fat, or patent foods.

The first step to take is to right the amount and proportion of baby's food, and to do this it is necessary to follow the recipes of humanised milk carefully. Give extra boiled water between meals, **and remember the daily fruit juice,** so essential for all bottle-fed babies, then proceed with the following simple remedies.

Simple Remedies.

(1) Massage. — First warm your hands and lubricate them with olive oil. Begin at baby's right groin, move the hand up over the ribs, then across just above the navel to the opposite side, then around the left groin, using a series of circular movements and working on the pads of your fingers. At first move very gently, then employ a firmer, deeper pressure as baby becomes used to the massage. Do this regularly for five minutes every night and morning. This can also be followed by the further stimulation of the abdominal muscles with the alternate stretching out of baby's legs and pressing them back against the abdomen. Then hold baby out.

(2) Prune Juice. — This is a perfectly harmless natural laxative, and may safely be given to baby from the third month onwards. Commence with about half a teaspoon only, increasing gradually to 1 or 2 tablespoons if necessary. From four months onwards a little of the pulp of well-cooked Prunes (finely sieved) may be added to the juice. Start with half a teaspoon of pulp and work up to one or two teaspoons. Serve warm, and cook the Prunes without adding sugar.

(3) Spinach Puree, as a natural laxative, may also be given after the third month, beginning with half a teaspoon and increasing to two to three teaspoons at four months and 1½ tablespoons at six months.

(4) Fluid Magnesia. — From a few weeks onwards this magnesia may be used as a temporary measure, but should not be continued indefinitely. One teaspoon of a good fluid magnesia may be given in one tablespoon of warm boiled water two or three times daily, before feeds. Also, as a

"The Fruit World & Market Grower" Appreciated

A Well-Known Grower States:—

"Of great educative interest to all fruitgrowers and to those connected in any way with the fruitgrowing industry . . .

Writing under date July 27, 1936, Mr. Chas. J. Nash, of Floresco, Shepparton East, Victoria, states as follows:—

"I herewith have pleasure in enclosing my cheque for £1/10/6, being four years' subscription to the "Fruit World and Market Grower," to June, 1940. I would like to congratulate you on the high efficiency you have maintained in the production of the journal.

"IT IS OF GREAT EDUCATIVE INTEREST TO ALL FRUIT-GROWERS AND THOSE CONNECTED IN ANY WAY WITH THE FRUIT-GROWING INDUSTRY. IT IS ALWAYS UP-TO-DATE IN BRINGING INTO PROMINENCE NEW AND IMPROVED METHODS ON THE PRACTICAL FIELD OF ORCHARD WORK.

"Wishing the 'Fruit World' continued success, and heartiest congratulations to those who are making it of such high merit. With all best wishes."

How much POTASH for Apples?

"I use a complete fertiliser — 3 lbs. per tree — so my apples get a little potash!" A remark frequently heard — but how misguided!

An official trial recently concluded in U.S.A. gave conclusive proof that ***"a little" is not enough.*** On standard apples uniformly treated with 3 cwt. of super and 1½ cwt. of nitrate of soda, potash was applied at varying weights with the results shown:

Muriate of Potash per acre.	*Acre value of fruit less cost of potash.*
30 lbs.	£181-12-0
60 lbs.	£222-18-0
100 lbs.	£257-16-0
150 lbs.	**£389-18-0**

Full grown trees need the potash contained in 10 lbs. per tree of 2:2:1 (W.A. "Special K"). For smaller or for extra large trees, use less or more.

SUN BRAND (registered) POTASH

For advice on general orchard problems write to:

PACIFIC POTASH LIMITED
Research Service, Box 3843T, G.P.O., Scottish House, 19 Bridge Street, Sydney

F.2/36

POTASH MAKES *all* THE DIFFERENCE

temporary substitute milk of magnesia, one teaspoon daily, is very effective. Both of these magnesias may be given in the milk mixture if baby is bottle-fed. The juices and purees should always be taken between meals.

(5) Enema.—If 48 or more hours have elapsed since baby's last motions it may be necessary to give him an enema of salt and water or plain water. **Never use soap and water** for this. Add salt in the proportion of one teaspoon to one pint of water. Use a small rubber bulb with a soft rubber nozzle, especially made for babies. Oil or vaseline the nozzle and inject the water at a temperature cooler than blood heat. Insert no more water or saline than will produce a motion, as large enemas may result in additional sluggishness.

(6) Medicinal Paraffin may be used in the place of, or in addition to, the fluid magnesia if baby is still very constipated. Give one to three teaspoons in the 24 hours.

As an emergency measure only, when no rubber enema is procurable, a soapstick may be used; but remember, soap is very irritating and should only be used in emergency. Use a good superfatted soap (Castille). Trim off a piece about an inch long and as thick as an ordinary pencil, carefully tapered to a point at one end. Dip the soap in warm oil before inserting.

Warnings.

Castor Oil.—Do not give castor oil for constipation as it only makes matters worse. Castor oil is given for treatment in diarrhoea. The object of castor oil is to clear out any irritating cause and bind up the motions.

Purgative Medicines should not be given to babies except under a doctor's orders. Generally speaking, these stimulate the muscles of the intestines to violent action, thus bringing about a motion, and causing more sluggishness and lack of normal tone than before. — "Tas. Journal of Agric."

The Victorian Fruit Marketing Association

Monthly Meeting

THE monthly meeting of the Executive of the Victorian Fruit Marketing Association was held in the Board Room, Commercial Travellers' Association, Melbourne, on Friday, August 28, 1936, at 11 a.m.

There were present Messrs. W. H. Carne, Vice-President (in the chair), A. S. Harrison, F. Moore, J. J. Tully, J. B. Mills, G. H. Sprague, S. Brown, G. Douglas, F. R. Mellor, and the Secretary, R. E. Boardman.

Apologies were received from Messrs. F. Cave, J. Barker, J. M. Ward, and F. M. Read.

The Chairman stated he had regretfully to announce that two members of the Executive had suffered bereavement, Mr. W. P. Hutchinson having lost his brother, and Mr. J. Barker his mother. Members stood in silence as a tribute of respect, and letters of sympathy were authorised.

The Sydney Market.

Consideration was given to the question of the formation of an Interstate Consultative Committee to improve marketing in Sydney along the lines of a recent conference in Sydney on this subject, when a tentative programme was drafted, including the placing of Sydney markets under a trust, or commission, the regulation of quantities to avoid gluts, etc.

Mr. P. S. Macdermott, acting Secretary N.S.W. Chamber of Fruit and Vegetable Industries, addressed the meeting, by request, stating that the objective of the Chamber was to lift the status of the trade, there being a yearly turnover of £5,000,000 in fruit and vegetables, involving credits of £1,000,000 on the part of traders; the formation of an Interstate Consultative Committee was desired to bring about better marketing conditions; the Tasmanian State Fruit Board and the Queensland Committee of Direction of Fruit Marketing had joined up, and the Fruitgrowers' Federation of N.S.W. would co-operate.

In reply to questions, Mr. Macdermott stated that meetings would be held in Sydney, probably once or twice a year. The Chamber would do the necessary secretarial work, and there would be no expense other than each State paying the expenses of delegate or delegates.

Mr. Macdermott was thanked by the Chairman and then withdrew.

Mr. Thiele said this raised the question as to whether the V.F.M.A. was to undertake work connected with Interstate marketing, or to confine its activities to export problems.

Mr. Moore said that, in view of all that was happening in the industry, there was need for one fully representative Association in Victoria, and he believed the V.F.M.A. should be the body to act in this connection.

Mr. Mills said that so far the proposed Consultative Committee apparently had no constitution, but it would probably be of value for a delegate to attend the next conference when convened.

Mr. Harrison stated that with regard to the Sydney market packed fruit was dealt with, and to this extent the trade was on all fours with export.

Mr. Moore moved:—

That when the next conference is arranged in connection with the proposed consultative Committee, a delegate be appointed to attend.

Mr. Harrison seconded. Carried.

Colombie Cup.

Letter received from Mr. H. G. Colombie giving details of the winning of the Colombie Export Apple Packing Competition Cup by Mr. J. A. Catto, and suggesting that the presentation be made at the next meeting of the V.F.M.A.

It was decided after discussion that the presentation be made at the annual meeting in October at a date to be arranged, possibly coinciding with the return of Mr. G. W. Brown, and that the Minister for Agriculture (Mr. Hogan) be asked, in conjunction with Mr. Colombie, to make the presentation.

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Fruit Importer And Salesman

All Business Under Personal Supervision . . of . . Mr. Barney Springer assisted by his Five Sons

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Federal Grant.

Mr. S. Brown requested that a statement be drawn up re losses on this season's export for presentation to the Federal Government, with a request for increased assistance. The Secretary read a letter from the Apple and Pear Council stating that the Commerce Department, in response to an approach by the Council, had requested particulars as to comparative prices for 1935 and 1936, regarding F.O.B. and market prices for export fruit, and similar particulars for fruit on the main Australian markets.

Mr. Mills stated that, following an approach by the Tasmanian State Fruit Board, he had already interviewed Dr. Page and Mr. Thorby, M's.H.R., and a deputation from the Council had been arranged to meet the Minister for Commerce at Canberra on September 8.

Approved.

Plums for Export.

Mr. Thiele said that, according to press reports, certain varieties of Plums were to be excluded from export, yet the varieties mentioned had been for years successfully exported from the Doncaster district.

It was decided that the subject of varieties of Plums for export be discussed at the next meeting of the Committee, representatives of the Department of Agriculture to be asked to attend.

Other items dealt with included Constitution Apple and Pear Council, Adelaide Conference, Organising the Industry, and Trade with Canada.

Brown: "My wife has been inside this shop for nearly an hour."

Smith: "And haven't you called her?"

Brown: "Yes — everything I can think of."

CRUDE OIL ENGINES.

Visitors to the Melbourne Royal Show are invited to inspect Ruston & Hornsby's Horizontal Oil Engine. The Ruston-Hornsby Mark 1 XHR Engine is now an outstanding advance in economy and brings to the small power user the low running costs and reliability associated with the larger sizes of Ruston Hornsby Horizontal Oil Engines.

It is simple, sturdily built, and easy to start. It requires the minimum of attention, and runs at a cost which is a fraction of that of corresponding petrol or paraffin engines.

It is a compression ignition engine, running on Diesel oil or gas oil. The fuel is injected into the cylinder in the form of a fine spray and ignites spontaneously on coming into contact with the air which has been compressed, and consequently heated, by the inward movement of the piston.

One man can start the engine from cold by hand without the aid of any external heating device of smouldering fuse. Although a starting fuse holder is provided for use in cold weather, this is seldom needed.

It is interesting to note that the number of crude oil engines installed in cool stores in Victoria alone exceeds 1400 B.H.P., whilst records for 1934 for engines installed for various industries in Australia totals 14,539 B.H.P., and for 1935, 10,441½ B.H.P.

Although of no direct interest to fruitgrowers and cool stores, other heavy machinery manufactured by this firm will be on view at their Royal Show stand at 62 Plummer-avenue, and will include the No. 10 R. B. Excavator and "D x 8" type 8 ton Aveling Barford Ltd. Road Roller, of which Ruston & Hornsby (Aust.) Pty. Ltd. are the sole distributors in Australia.

CHEAPER CULTIVATION.

More attention is yearly being given to the lowering of cultivation costs and also to betterment of cultivation itself. In these respects a sketch of one well-known orchardist's achievements is illuminating.

This orchard, comprising 40 acres, is worked as follows:—

Ploughing is done at the rate of from 1 to 1½ acres per hour, depending on the length of rows and condition of the ground. The average is 1¼ acres per hour.

Fuel consumption is 1 gallon per hour, 1/- per gallon, and lubricating oil and grease costs 3d. per hour, therefore the total cost per hour is 1/3.

Ploughing at 1¼ acres per hour, 40 acres take 32 hours to complete; cost of ploughing 40 acres is £2.

Ploughing is done with a 3-furrow Harvey orchard plough, and a "Caterpillar" tractor.

Discing and scarifying is done with an 8 ft. cover at the rate of 4 acres per hour, and the 40 acres is covered in each case in ten hours at a cost of 12/6.

He pays his tractor driver 16/- per day, and the total all in cost of ploughing, discing and scarifying his 40 acres is £8/9/-. In addition he uses his "Caterpillar" to haul a 500-gallon spray vat and the tractor drives the spray pump through a power take-off. With the large capacity vat no time is wasted in frequent refilling, as is necessary with the smaller capacity vats, and the "Caterpillar" has ample power to pull the large vat over sand or through mud, up and down hills.

Spraying is always done quickly and when required.

The "Caterpillar" tracks being approximately 2 ft. 4 in. high, permit the machine to work close to the trees when required without damage. The pressure per square inch on the ground is only about 5 lbs., so there is no soil packing.

With a power pulley attachment he uses the "Caterpillar" to drive a circular saw and cuts shooks.

At fruit picking time he carts his fruit from the orchard to the packing shed with the "Caterpillar."

Bay View... Fruit Picking Bag

REDUCE YOUR PICKING COSTS

Mr. Val Kerr, one of Victoria's leading orchardists, writes:—
"I have been using Bay View Bags for eight years, and find that they expedite considerably the work of picking. They are comfortable to wear, and the fruit is handled with a minimum of bruising."

SOLE MANUFACTURERS:

Fotheringhams Pty. Ltd.

118 CHARLES ST., LAUNCESTON

VICTORIAN AGENTS:—
F. R. Mellor, 440 Elizabeth St., Melb.

Smaller neighbouring orchardists are after him to do their cultivation, and pay him at the rate of £3 per day willingly.

On this basis a 20-acre orchard can be ploughed, disced and scarified in 26 working hours, or say, 3½ days, allowing for travelling time, and he receives £10/15/- for this. It costs him no more than £5, and shows him a profit at the rate of 4/- per working hour.

As it pays his neighbours to have him to do this cultivation, it is quite evident that it likewise pays him well, and it seems to be a very thorough and practical illustration of how cheap cultivation can be obtained with a machine so versatile as the "Caterpillar."

Owners of "Caterpillar" tractors have supplied Messrs. William Adams & Company Limited, the Victorian dealers, with a wealth of cultivation costs, and this company will be pleased to supply fullest particulars without obligation.

VERMONT FIELD DAY.

Thursday, October 1.

Under the auspices of the Victorian Fruit Marketing Association and the Southern Fruitgrowers' Association, a Field Day will be held at the orchard of Mr. F. G. Beet, Railway-road, Vermont, Vic., on Thursday, October 1, comencing at 10 a.m.

A most attractive all-day programme has been arranged. Lunch is available locally at moderate cost.

THE NATIONAL BANK OF AUSTRALASIA LIMITED

THE CURRENT ACCOUNT

An initial deposit of a moderate amount will make available the services of the National Bank to an individual, firm, corporation, or society through a current account, which may be opened at any branch of the Bank.

It is neither necessary nor safe to retain more than small sums of money on hand. The current account provides a safe depository for funds, and the Bank's patented pocket cheque book provides an easy and convenient method of making payments.

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Reserve Fund (used in the business) £3,000,000.

Marketing of Pigs

Importance of Careful Handling.

FOR whatever purpose pigs are marketed (whether as porkers or bacon pigs), it is highly desirable that before leaving the piggery they should be plainly fire-branded, preferably on the centre of the back, just behind the shoulders, advises a writer in "N.S.W. Agricultural Notes." The agent or factory manager should be advised regarding the brands used in the consignment, so that when the pigs arrive at their destination they can be distinguished and no error made as to their ownership. Such a system of fire-branding would also be very useful in tracing diseased animals and cleaning up affected piggeries.

Careful handling in transit is another very important point. Bruises and whip marks often show out clearly on the carcasse, causing loss to the curer and reacting unfavorably on the producer. The pigs may, of course, be bruised in the trucks, and this cannot very well be obviated, but the owner should exercise the utmost care in preventing bruising while the animals are under his control.

If it could be conveniently arranged in the different districts where there are bacon factories for suppliers to be invited to attend the factory by appointment, producers would be enabled to form a much better idea of what the market requires. Slaughtering days could be made known, a conference of producers could be called, and they might spend the day together discussing various matters, inspecting the factory, the killing and weighing, etc., of the pigs, and most beneficial of all, seeing the various qualities or grades of meat as supplied.

Many farmers do not realise that some breeds of pigs give carcasses that are not at all suitable for trade requirements, although the animal looks right when alive. The only place to see the result of good or bad breeding is in the factory. Such an opportunity of inspection would be of immense value to those engaged in the production of pigs for market.

Pigs are often held too long on the farm, and when marketed are over the profitable age limit, being too fat and heavy.

THE MARKET GROWER

OFFICIAL ORGAN OF THE MARKET GARDENERS AND FRUITGROWERS' SOCIETY OF VICTORIA.
ALSO OFFICIAL ORGAN OF THE KOONDROOK & BARHAM TOMATO GROWERS' ASSOCIATION.

Increasing Bean Yields

Tests With Fertilisers.

Tests which have recently been conducted by the N.S.W. Department of Agriculture in the Gosford district, under modern experimental conditions known as "plot randomising," set out to discover which are the best fertiliser mixtures to apply, the quantities to be used, and the results achieved in yield.

Making allowance for the soil character in the particular district tested, they ascertained that the mixture should contain sulphate of amomnia, that heavy dressings were essential and profitable, that superphosphate alone and superphosphate and sulphate potash in combination were unsuitable fertilisers for Beans.

Summarising the results observed, and taking the price of 5/- per bushel as an average return to the grower, the report states that a mixture of 2 parts super., 1 part sulph. ammonia. and 1 part blood and bone, at the rate of 896 lbs. per acre, yielded 539 bush., giving a return to the grower of £131/5/11 per acre. This mixture gave the best results of the five different mixtures tested. Superphosphate alone gave the lowest yield and return to the grower.

The soil on which the experiments were conducted is sandy loam, mouldboard ploughed and harrowed and worked with forked hoes before sowing.

GROWING CUCUMBERS.

Method Suggested.

There are two general varieties of the Cucumber, the long green and the short green. Both produce good crops and are popular with housewives. An Apple-shaped variety is popular in the kitchen garden, the plant is prolific, and the Cucumber is sweet in flavor.

In preparing the soil, the top should be removed, say 12 inches deep and 3 feet in diameter. Well-rotted manure should be put in the hole with a handful of superphosphate and sulphate amomnia. The top soil is then replaced to about 3 inches from the surface, and the whole well worked. Then add the 3 inches of soil and sow the seed in this.

When the seedlings are well up, leave the three strongest plants and pull out the rest. The plants must be kept well watered and the surface well cultivated to keep down weeds and to prevent evaporation of the soil moisture.

"Plane" Brand Dusts

"Beauty" (Knapsack) Dusters
"Superior" (Rotary) Dusters

ARE MANUFACTURED BY

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395 Queen Street
MELBOURNE

Fertilisers for Hot-house Tomatoes

Potash and Peanut Meal.

INTERESTING EXPERIMENTS with fertilisers for hot-house Tomatoes are being conducted by Mr. J. Douglass, senior agricultural instructor, N.S.W. Dept. of Agriculture. Tests revealed that potash, correctly applied, and peanut meal, both stimulated the plants to produce yields in advance of those receiving the standard application of the M.22 mixture (equal parts of superphosphate and bonedust) as a base treatment, and the P.11 mixture (six parts of super and one part of sulphate of ammonia) as a top-dressing.

The plan of the experiment, states Mr. Douglass, was altered this year to include "pre-applied" potash and peanut meal, the latter being a slow-acting nitrogenous organic fertiliser. No outstanding benefits had been experienced by using potash as a base dressing, but the experiment in question had indicated that **when this fertiliser was applied to the soil six weeks prior to planting, a definite response was noticeable.** It was of value to record that although the pre-applied dressings of 1 cwt. of the potash mixture gave an increased yield, substantially heavier applications depressed the yield.

The greatest yield

of 6 lb. 2 ozs. a plant, was obtained from a plot which had been dressed with four parts of super. and one part of peanut meal as a base application, and again subsequently as a top-dressing.

The advantage of the peanut meal was that it could be worked through the soil bulk before transplanting without adverse results. If this was done with a readily available nitrogenous fertiliser, the excessive vegetative growth so induced had the effect of reducing the return. This dressing gave rise to an increased yield of slightly over 1 lb. to the plant more than that obtained from plants treated by the usually recommended method.

The second highest yield was secured from the plot which was dressed with 1 cwt. of sulphate of potash applied six weeks before the plants were set out in the house, and followed by the departmental recommendation of a base dressing of M.22 and side-dressings of P.11. This plot gave a return only a little under that of the leading area, and thus demonstrated the results that might be obtained from the use of potash properly administered.

STRAWBERRIES BY AEROPLANE.

Introduced in U.S.A.

Word comes that a shipment of Strawberries was recently rushed from New Jersey to New York by aeroplane. The fruit was picked early in the morning, taken to the auction market for sale, packed into an aeroplane at 2.15, landed in New York at 4.30, and sold immediately to a firm demand. It is quoted as the first use of an aeroplane for this purpose in U.S.A., but in Europe aeroplanes are being fitted with refrigeration space for transporting as much as three or four tons of perishable goods at a time.

EARLY TOMATOES

IF GROWERS catered for the early market, there were very good prospects in Tomato growing, even on small areas and with limited capital stated a N.S.W. Agriculture Departmental instructor in an address at the recent Lower North Coast conference of the Agricultural Bureau.

The best practice was to plant seed in May and June, nurse the plants along, and put them out when the weather warmed up, so that they would fruit from September to November.

The seed should be sown in boxes the soil of which had been saturated so that it would not be necessary to water for some weeks. The boxes should be protected in frames and later the plants should be pricked out 3 inches apart each way into other boxes. When watering, care should be taken not to wet the leaves.

The area on which the Tomatoes were to be set out should have a north or north-easterly slope, and should be prepared early. A base dressing of equal parts of bonedust and superphosphate, or a mixture of superphosphate and cow manure was advisable.

Plants should be set out in shallow drills—these were warmer and better drained—the rows being 3 feet 6 inches apart. It was essential to stake the plants, and pruning to a single stem resulted in crops up to ten days earlier in maturity. Pruning should commence at the top of the plant, so as not to remove the growing point of the plant, and care should be taken in tying to ensure that the fruit bunches were out from the stake.

To control diseases it was necessary to spray with Bordeaux mixture 1 : 1 : 10 every ten days from the time the plants appeared. Wilts were carried in the soil and seed. The plants gradually yellowed and a brown ring was to be seen in the vascular bundles. Nothing could be done but to grow resistant varieties.

There were only a few varities worth growing. On virgin soil, where the seed beds were also clean, Earliana and Bonny Best could be used, but these were not disease resistant. Where it was necessary on the coast to use resistant varieties, Red Marhio and Break-o'-day were recommended, these being second early varieties.

MAFFRA BEET GROWERS.

At the recent annual meeting of the Maffra Sugar Beet Growers' League, the President, Mr. T. M. Noble, in presenting the annual report, said that deliveries for the year totalled 37,634 tons of clean Beets, with an average sugar content of 17.12 per cent. It was decided to install new machinery at a cost of £13,000, and to seek a minimum price of 39/- per ton for next season, with an additional 1/- for each ½ per cent. of sugar content over 14½ per cent. Mr. Noble was re-elected President and Mr. A. D. Matthews Secretary.

A NEW TOMATO.

Experiments in Queensland.

To meet the growing demand for Tomatoes particularly suitable for factory use, a new variety is being experimented with in Queensland. Seed will be distributed to growers in some dozen districts so that various climatic conditions can be had and districts most suitable for the production of the particular variety may be ascertained.

The new Tomato is thought to have the necessary characteristics for an ideal processing product such as firmness of flesh, color, size, evenness, etc. It is pointed out, however, that its use is restricted to factory needs, and it is not suitable for the market.

PUMPKINS £180 PER TON.

Vegetables for the Far East.

An Australian, recently returned from China, wonders why producers here do not establish cool stores in the Far East and exploit the market there for Australian-grown vegetables. He reports that Pumpkin is sold at 1/8 per lb—or roughly £180 per ton—whereas they can scarcely be given away in Australia. In Hong Kong, he proceeds, U.S.A. Swede-Turnips are the only ones available. All Oranges seen come from California.

Owing to the bad conditions under which vegetables are grown in China, Europeans will not risk eating fresh salads. Vegetables and Lettuce mostly come from California. Australian vegetables, he concludes, would receive a ready welcome if they could be landed in a fresh condition.

SWEET POTATOES.

Experiments which were commenced in 1928, and have been continued, show that Sweet Potatoes suitable for local requirements can be grown in localities having soil and climatic conditions similar to those at Dubbo and Wellington, N.S.W., thus exploding old ideas regarding the suitability of different districts, climates and soils.

Clean, well-shaped roots of good appearance can be produced in very sandy soils or free-working, well-drained loams, hillside loams with these characteristics being particularly suitable. A loose, well-drained soil facilitates harvesting and in addition allows the sweet Potatoes to be left in the soil without deteriorating should the market be unsatisfactory.

The sweet Potato tends to make excessive vine growth, and to form rough and irregular roots in heavy soil, such as the alluvial loams of the Hunter River and Hawkesbury districts, thus reducing the market value. The condition known as "growth-cracking" also appears to be associated with rich soils.

Motor Cars, Trucks, Tractors

SAFETY GLASS

Adoption Increasing

Manufacturers in both Great Britain and U.S.A. are now using safety glass in motor car construction in increased quantities. The tests given to ascertain the advantages of safety glass consist of droping an 8 oz. steel ball on to a sample of glass from a height of 10 feet or an 11 lb. bag of lead shot from a height of 8 feet. Glass for windscreens is subjected to even more severe tests to ensure that flying glass shall not injure the driver. This is but one of the improvements being introduced into the manufacture of modern cars.

A recent press report from London states that from January 1, 1937, the use of safety glass will become compulsory for all windscreens under new regulations issued by the Ministry of Transport. It is estimated that 500,000 vehicles will need conversion by the equipment of safety glass windscreens. So far Australia has not made this equipment compulsory, but certain cars are being voluntarily so equipped.

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GIBBS STREET

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City Showrooms: **114 Franklin St., Melbourne**

BALLOON TYRES FOR TRUCKS.

The growing popularity of the low-pressure balloon tyre on cars and commercial vehicles is not surprising, since the advantages in its favor cannot be disputed, says a Dunlop-Perdriau bulletin.

Reduced chassis maintenance, protection for fragile loads, faster average speeds, greater traction, better brake control and increased petrol mileage are only a few of the advantages claimed. An important point made is that the lower inflation pressure at which balloon tyres are run reduces the tension on the cords in the casing and adds to mileage life in such covers.

Practically all new motors sold in Australia are equipped with low-pressure tyres, and anyone using them can appreciate their superiority over the old hard smaller tyres. So many advantages accrue from the use of "balloons" that many owners with somewhat old trucks and cars have converted their vehicles to balloon tyre service.

DO YOU CRANK PROPERLY?

It is seldom necessary to crank the modern car, but, should an emergency compel you to do it, would you know the easiest method? Here is a formula which avoids the risk of minor accidents, says "The Rediator."

Set the gears in neutral and pull the handbrake on, retard the spark (if there is a hand adjustment), and open the hand throttle slightly.

Insert the crank handle, and take a firm stance in front of the car in such a position that the arm can get a fairly straight pull upward on the crank, while the body and chin are clear of its swing should a backfire occur.

Hold the handle so that the thumb is on the same side of it as the back of the hand.

Pull the crank handle up smartly, allowing the leg muscles to take most of the strain. Finish the movement with a jerk, and then release the handle. It may be necessary to repeat the process several times. Push-downwards is dangerous, and not nearly as effective.

MORE TOURISTS IN 1936.

Shows Return to Prosperity.

This year more touring will be done in U.S.A. than has ever been recorded in the nation's history, says Roger W. Babson, the famous American business statistician. He ascribes his prediction to improved business conditions which are a sign that the depression period has definitely lifted. National income, he states has risen from eight billion pounds in 1932 to twelve billion pounds this year.

Included in the increased purchases of the people is the sale of motor-cars and trucks, indicating that not only have domestic purchases risen but that commercial transport has begun to soar to something approaching pre-depression figures. This fortunate condition is also reflected in Australian sales records for 1936.

THE ART OF CORNERING.

Careful observations made indicate that there are many car drivers who are either ignorant of the simple art of cornering, or who do not trouble to take corners cautiously. It might be said that no two bends in a road are similar and that each one calls for a special application of driving skill, particularly when a fast pace is maintained. But generally it is possible, unless the speed is inexcusably excessive, to appraise each corner in turn and to control the car in a masterly manner.

LUBRICATE GEAR LEVER.

In cars fitted with the ball type gear shift lever, gear shifting will be found much easier if the ball is lubricated occasionally, says a recent Chevrolet circular.

The gear lever is pressed down and transmission oil squirted on the ball from an oil can. Return the lever gradually to its place as if it is allowed to snap back oil will be discharged into the interior of the car. This operation should be carried out about once every six weeks or as often as the gear lever is found to be stiff in shifting gears.

FISHERMAN'S BEND MEANS MOTORS.

Melbourne is already feeling the benefit of the location of the extensive factory of General Motors-Holdens at Fisherman's Bend. On September 21 the first cargo is to arrive consigned to the company's own wharf, opening up another terminal for interstate and overseas shipping. Some £450,000 represents the amount that will be expended on the above site, and the plant will include the most up-to-date equipment procurable.

PAY AS YOU DRIVE.

In order to stimulate the purchase of motor cars, the German Government now advances to its civil servants up to two-thirds of their salary for the purchase of cars. It is reported that large numbers of civil servants are taking advantage of this new offer, Not only are they thereby enjoying the privileges of better transportation, but the move is being reflected in increased sales and consequently greater employment in the various industries affected by the motor trade.

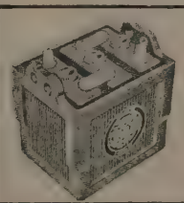
Catching Up."

"Hallo! Never saw you walking so quickly before. Where are you going?"

"A man has just stolen my car, and has gone down this road."

"But surely you don't expect to overtake him on foot?"

"Don't I? He's got no repair outfit with him."



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Export & Commercial News

Fruit Prices in the Sydney Market

Survey of Operations for the Period July 25 to August 25

Spring Weather Encourages Business — Inland Navel Oranges Dominate Market — Other Citrus Less Plentiful Than Usual — Pome Fruits Maintain Values — Queensland Tomatoes Unusually Plentiful.

By L. T. Pearce, Market Representative, Fruitgrowers' Federation of N.S.W.

THE UNUSUALLY WARM and fine weather experienced during the month of August was reflected in the steady demand experienced for most products in the fruit market. Quantities of fruit generally continued light, most Apples and Pears coming from the Southern States, while the necessity of marketing Navel Oranges from the Irrigation Area made this product very noticeable latterly. Navel Oranges, however, were conspicuous more because of the largeness of their size and the necessity of immediate sale rather than because of the quantity. The marketing of Mandarins and Oranges was completed from the Hawkesbury River, and most fruit from the Hills District appeared to be of small size. Both Bowen and Southern Queensland Tomatoes were plentiful and competed with each other on the market.

Export of Oranges was conducted in a very small way only, but steady supplies were forwarded to Eastern ports, and a few to the United Kingdom.

Apples.

Arrivals for the period under review approximated 95,252 cases from Tasmania, and were a little lighter than usual, but Victoria forwarded steadily, and values generally were maintained, with slight improvements in relation to firm, colored types. Arrivals were chiefly Democrat, Sturmer and Scarlet Pearmain, with a quantity of French Crab and other varieties. Victoria chiefly forwarded Rome Beauty and Democrat. During the month Aromatic and London Pippin were finished, but N.S.W. steadily forwarded Granny and Delicious. Prices:—For Special and Standard grades, quoting in three groups: (1) 3-in. and over; (2) 2¾-in. and 2½-in.; and (3) 2½-in. and 2⅜-in.: — Cleo. (Tas.) 6/6 to 8/-, 8/- to 11/-, 6/- to 8/-; Crofton (Tas.), 8/- to 9/6, 10/- to 12/-, 8/- to 10/6; Del. (N.S.W.), 14/- to 17/-, 14/- to 17/-, 9/- to 12/-; Del. (Vic. and Tas.), 10/- to 11/6, 7/- to 9/-; Demo. (Tas., Vic., & N.S.W.), 6/- to 7/6, 8/- to 10/-, 7/- to 8/-; French Crab (Tas.), Green 7/- to 8/6, 8/- to 10/-, 5/6 to 7/6; Granny (Tas. to 11/-), N.S.W., 9/- to 12/-, few higher, 10/- to 13/-, 6/6 to 8/-, plain grade 6/- to 8/-; Jon. (Vic. & Tas.), 7/- to 9/-, 9/- to 12/-, 8/- to 10/-; Romes (N.S.W.), 7/- to 10/-, 9/- to 11/-, few 12/-, 8/- to 9/-; Romes (Vic. and Tas.), 8/- to 11/-; Scarlets (Tas.), 6/- to 8/-, 8/- to 10/-, 7/- to 8/-; Sturmer (Tas.), 6/- to 7/-, 6/6 to 9/-, 5/6 to 6/6; Plain and "D" Grades lower.

Pears.

Supplies chiefly come from Victoria, as is customary at this time of the year, and Josephine firmed slightly. Glou Morceau reappeared on the market, and Winter Cole appeared to be practically finished. Consistently good demand was experienced for Packham's Triumph of good quality. Prices:—Quoting in three groups for Special and Standard grades: (1) 3-in. and over; (2) 2¾-in. and 2½-in.; and (3) 2⅜-in., 2¼-in., and 2⅛-in:—Bosc (N.S.W. to 8/6), Vic., 8/- to 9/-, 9/- to 10/-, 8/- to 9/-; Glou Morceau (Tas. and Vic.), 10/- to 11/-, 9/- to 10/-; Jos. (N.S.W. and Tas.), 9/6 to 10/-, 9/6 to 12/-, 7/6 to 9/-; Packham's (N.S.W., Vic. and Tas.), 8/- to 11/-, few higher, 9/- to 13/-, 7/- to 11/-; Winter Cole (N.S.W., Vic. and Tas.), 11/- to 13/-, 7/- to 13/-; Winter Nelis (Tas. & Vic.), 9/- to 10/-, 10/- to 11/-, 8/- to 10/-; plain and "D" grades lower.

Bananas.

Arrivals approximated 35,000 tropical cases, of which more than 30,000 arrived from N.S.W., the balance coming from Queensland. In addition to the above an unknown quantity was purchased on the Brisbane market and introduced to Sydney. Newcastle deliveries and direct sales would also be in addition.

Supplies on the Sydney market were considerably less than at this time last year, when arrivals approximated 9,000 cases per week. Values

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PROMPT RETURNS. SHIPPING NOS.—
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Bankers: Bank of N.S.W., Haymarket, SYDNEY.

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have been steady as a result of the even distribution of this fruit between the respective Interstate markets and also due to the even distribution amongst the various agents. Prices:—According to the N.S.W. Banana Board, are as follows: Regulation graded, first quality fruit, 6-inch 14/- to 16/-, 7-inch 16/- to 18/-, 8 and 9-inch 18/- to 21/- per tropical case. Incorrectly graded, medium and poor quality, lower.

Custard Apples.

Queensland arrivals of this fruit ceased for the season during the beginning of August, values then being at 3/6 to 5/- per half bushel case.

Citrus Fruits.

Comment: The lightness of the citrus crop continued to be demonstrated in the absence of over supply, particularly in relation to Mandarins and Lemons, and the practical cessation of arrivals of Navel Oranges from coastal districts.

Grape Fruit: Practically no variation was experienced in regard to this fruit, as most arrivals were the Wheeny variety from coastal districts, most of which were small in size and difficult to sell. Inland supplies of Marsh's Seedless were inconspicuous, and values continued unchanged. Prices:—N.S.W. Special and Standard. **Local** Counts, 56 to 72, 4/- to 7/-, few extra special to 11/- per bushel. Other counts, 2/- to 3/- per bushel. **Inland,** 5/- to 7/-, few extra choice higher per bushel.

Lemons: Although latterly a little repacking of plain grade fruit was observed, supplies generally did not accumulate in the market, but were sufficient for the demand at the values that have existed for the past two months. Most factory requirements were supplied direct by growers, with values a little higher than is usual at this time of the year. Prices:—N.S.W. Special and Standard. Counts, 96 to 150, 3/- to 5/-; Counts, 163 to 216, 4/- to 6/-; Counts, 234 to 270, 3/6 to 5/- per bushel, plain grade, 2/- to 3/- per bushel, few special inland, 5/- to 7/- per bushel.

Oranges, Navels: Early in August supplies of Navels, which had not been very conspicuous, were reduced a little by rain on the Irrigation Area. Values then improved a little, but by the middle of the month the necessity of marketing inland supplies caused stocks from the Murrumbidgee Irrigation Area to dominate the market at a lower level. Most arrivals continued to be large sizes, and two-bushel crates from the Area and Niagara Park was conspicuous.

Reports indicate that the bulk of the Washington Navel crop will soon be marketed. Prices:—N.S.W. Special and Standard. Counts, 64 to 96, local, 4/- to 6/-, inland 4/6 to 6/-, few 7/- per bushel; Counts, 113 to 138, local 5/6 to 7/-, few 8/-, inland 6/- to 8/- per bushel; Counts 150 to 198, local 5/- to 6/-, inland 6/- to 7/- per bushel; plain, 3/- to 4/- per bushel; two-bushel crates, Special and Standard, 9/- to 10/-, plain, 7/- to 8/-.

Other Oranges: These were not conspicuous and were difficult to sell with Navels offering at attractive prices. Prices: Counts, 163 and larger, 4/- to 4/6 per bushel; others, 2/6 to 3/6 per bushel. Seville, 3/- to 5/- per bushel.

Mandarins: Small sizes were conspicuous, and were under offer at very low prices. Supplies of Mandarins, however, were not excessive, and where the fruit was firm and clean-skinned, ready sale was experienced. Most arrivals, however, displayed age, particularly the last of the fruit from the Hawkesbury River. The Hills District fruit was a little more plentiful, but it was not anticipated that the crop from this district would be large. Prices:—N.S.W. Special and Standard. **Emperor,** Counts, 140 to 240, 4/6 to 7/- per bushel; Counts, 260 to 300, 3/- to 4/6 per bushel; smaller, 2/- to 2/6 per bushel; **Thorny,** 2/- to 4/6 per half bushel.

Passion Fruit.

Choice quality fruit has always been in request, but this type continued to be scarce. Prices:—N.S.W., 6/- to 10/-; special, 13/-; inferior, from 2/- per half case.

Pineapples.

Arrivals from Queensland for the period under review totalled 12,917 tropical cases. Arrivals during the last week increased considerably, and totalled 3,517 cases, as against 2,350 cases the previous week. Prices: — Q'land, Queen, large 7/- to 8/-; Counts, 18 to 24, 8/- to 9/-; few 10/- per tropical case.

Papaws.

Arrivals for the month approximated 1,064 tropical cases, green fruit continuing in too great a quantity, and being very difficult to sell. Prices:—Q'land, partly colored, 8/- to 12/-, special ripe, to 14/- per tropical case. Green unsaleable.

Strawberries.

Arrivals approximated 12,438 trays and 2,771 cases of boxes. This fruit has been plentiful this year, and with warmer weather should now meet with better request. Prices:—Q'land, 2/6 to 5/- per tray, 7/- to 10/- per dozen boxes.

Tomatoes.

N.S.W. supplies of Tomatoes have comprised both glasshouse and hothouse fruit. Supplies have not been considerable, but are likely to increase considerably. Queensland supplies approximated 78,000 half bushel cases, supplies arriving from Bowen in the north and from plantations in the vicinity of Brisbane. The quality of the fruit varied considerably, and repackers were very necessary to place the fruit in such a condition that the buyers would appreciate it. Prices:—N.S.W., Hothouse, 10/- to 14/-, Glasshouse 9/- to 13/- per half bushel case; Q'land, Bowen, 6/- to 8/-, few 9/- per half case; Brisbane, 5/- to 7/- per half case. Repacked, 9/- to 12/- per half bushel case.

PLUMS IN ENGLAND.

In a report of marketing conditions Messrs. J. O. Sims Ltd., fruit brokers, London, state that on July 21, when Australian Apples were receiving anything but good prices, Italian Plums were selling as follows, in baskets from 8 lbs. to 10 lbs. gross:—Santa Rosa, 3/6; Burbanks, 2/10; St. Pietro Blues, 2/8.

Empire Grown Fruit

Principal Producing Areas.

"There is no fruit of any commercial importance that cannot be produced within the limits of the British Commonwealth of nations," declared Sir William Lobjoit, O.B.E., at the Empire Fruit Producers' Conference.

At all times of the year the consumer in Britain can obtain fresh fruit grown in British countries. Whilst it is true that Apples, Pears, Oranges and Bananas are the main varieties easily obtainable in season, the statement covers many other lines. From whence does this fruit come?

United Kingdom.—A tremendous quantity of fruit of all varieties is grown within the British Isles. In 1934 she produced 400,000 tons of Apples alone, exclusive of those used for making cider, which amounted to 125,000 tons extra. Taking all fruits produced, the quantity was around 800,000 tons.

Canada produces large quantities of Apples and Pears for export as well as other fruits for home consumption. Britain takes approximately 10 million cases of Apples and Pears per year, even though Canada's season is approximate to that of Britain, and therefore somewhat competitive with the English producers.

Australasia.—The Apples and Pears exported by Australia and New Zealand come on to the markets in the United Kingdom at a time that does not conflict with English production, and therefore have little competition with home growers. In round figures, Australasia supplies 5 million cases of Apples and Pears to the English market each year. Although these are the main varieties exported, a growing export trade in Oranges is being developed.

South Africa.—Whilst this Dominion grows and exports many varieties of fruits, Oranges are their main export line, and over 62,000 tons is the average contribution to the home market.

But other fruits from South Africa arrive on the London market during the Winter, and are very welcome. Grapes, Peaches, Apricots, Plums, Pears and Apples are all represented in a smaller quantity. In 1934, 6,500 tons of Grapes were sent to London.

Other British Dependencies add their quotas to the enormous contribution made of British-grown fruits. Fiji, Jamaica, Trinidad, Palestine, India, Burma and Malaya all extend the flow of primary produce which is continually being supplied to the Mother Country by her children-States overseas. The satisfaction is mutual, each depends upon the other, and the continued production of this one variety of Britain's food requirements is a programme that is to be commended and encouraged.

S. AFRICAN FRUIT IN U.K.

Heavy Supplies via Southampton.

Messrs. H. W. Bevan & Co., of Sydney, Australian agents for the Southampton Docks, have furnished the following report re fruit imported via Southampton to June 20, 1936.

Nearly 4,300,000 packages of South African deciduous fruits have been imported through Southampton during he present season shortly terminating.

Southampton handles practically all the Union's fruit exported to the United Kingdom, and this season has been the most successful yet experienced.

Increase in the number of packages over last year nearly reaches one million.

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REGULAR SAILINGS TO CONTINENTAL PORTS provide unrivalled MARKETS for re-export of EMPIRE FRUIT.

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Victoria: Harcourt Fruitgrowers' Progress Assn. Ltd. Harcourt Fruit Supply Co. Ltd. Victorian Central Citrus Assn. Ltd.

Tasmania: State Fruit Advisory Board.

New South Wales: Griffith Producers' Co-op. Co. Ltd. Batlow Packing House Co-op. Soc. Ltd.

INTERSTATE GRADING REGULATIONS FOR APPLES AND PEARS.

Tasmania's Attitude.

With reference to the published report of the recent Interstate Conference at Sydney, re Apple and Pear grading regulations, Mr. C. O. Smith, Chairman of the Tasmanian State Fruit Board, who was one of the delegates, points out that in the discussion by Tasmanian delegates as to the lifting of the grades for interstate trade, the idea to be conveyed was that while the Extra Fancy and Fancy should remain as for export, the grades known as "Good" and "Domestic" should be of a higher standard; and as regards the suggestion that in a normal season Tasmania could send only "Extra Fancy" and "Fancy" Apples to Sydney, this is a matter for discretion, according to crops and market condition.

FRUIT GRADERS, PROCESSING EQUIPMENT, ORCHARD IMPLEMENTS, ETC.

The display at the Royal Melbourne Show by Mr. D. Harvey, of Box Hill, Victoria, will be one of particular interest to fruitgrowers. A complete range of fruit graders and fruit processing equipment will be demonstrated, and will include Apple and Pear Graders in various types and sizes, washing machines for removing arsenate of lead from Pears and Apples.

For citrus growers there will be the Harvey citrus graders and dry polisher brushes. This complete wet and dry processing equipment includes provision for soaking, wet scrubbing, sterilising, drying and dry polishing, together with sorting tables and graders to give two or three qualities.

Prune growers are also catered for with a special line of Prune graders.

Harvey's orchard implements are well known, and a complete range will be demonstrated, including the Beetle Back Citrus Cultivator, which may be fitted with citrus disc, spring tyne, and furrowing attachment with hoods complete.

The Petty Wonder Plow has proved its value in the orchard. One of the many features is the manner in which this implement plows the strips out from and around each tree. The Petty Plow can also be converted into a one-way reversible disc cultivator, an irrigation furrower or a spring tyne cultivator.

Mr. D. Harvey's stand is situated at No. 58 Plummer-avenue, Royal Showgrounds, and a cordial invitation is extended to growers to call and discuss implements and grading and packing problems when in Melbourne.

APPLES AND PEARS IN U.K.

Cabled advice from London on August 1 was as follows:—

Because of a plentiful supply of early English Apples, the markets have been flooded with soft fruits. Quantities of cold-stored Australian and N.Z. Apples are also offering; consequently prices show little change. Total supplies of Australian and N.Z. Apples due to arrive to July 28 amount to 5,090,000 boxes, and Pears 699,000 boxes. Thus, although the market has been led to believe that shipments would be lighter, actually they will be the highest for three years.

Prices were as follows:—

Apples.—Tasmania (ex "Barrabool").—Sturmers, 6/6 to 8/6 a case; French Crabs, 6/6 to 8/3; Granny Smiths, 9/- to 13/-. Vic. (ex "Tudor Star").—Granny, 13/-; Romes, 8/6 to 8/9. W.A. (ex "Barrabool"and "Tudor Star").— Yates, 9/3 to 10/3.

Pears.—Vic (ex "Sydney Star").—Nelis, 11/9 to 12/6 a case. N.S.W. (ex "Sydney Star").—Packhams, 15/3 to 16/3.

Cable Address: DAVIS, MELBOURNE. Code: "ABC," 4th and 5th Editions. Box, G.P.O. 148B.

J. DAVIS PTY. LTD., *Fruit Merchants*

8 WHOLESALE FRUIT MARKET

Consignments solicited. One Trial Invited. Best Prices obtained. Prompt Advice and Payment.
Telephone, F 3232. Bankers: The National Bank of Australasia, 271 Collins Street, Melbourne.

Telegraphic Address: "Listeria," Melbourne. **Postal Address: G.P.O. Box 555D. Telephone: F 6341.**
Codes: Bentley's A.B.C., 5th Edition. **Private: Windsor 4535.**

GEO. LISTER PTY. LTD. (Managing Director: J. R. VAIL)

Selected Agents for all Growers' Organisations Throughout the Commonwealth.
Wholesale Fruit Merchants — Licensed Commission Agents — Importers and Exporters.
No. 12 WHOLESALE FRUIT MARKET, MELBOURNE.

Having carried on a successful business for over half a century, our name stands high in the Wholesale Fruit Trade of Australia. Our spacious premises at Melbourne Wholesale Fruit Market are admirably adapted for the conduct of our large business, and growers are assured that our best efforts are always at their disposal.
Bankers: Commercial Banking Co. of Sydney, MelbourneBranch. Fidelity Bond Guaranteed by I.O.A. Insurance Co.

Silbert, Sharp & Davies
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FRUIT MERCHANTS
17 Wholesale Fruit Market
'Phone: F 2287.

REGULAR SUPPLIES OF GOOD FRUIT, WELL PACKED AND GRADED, BRING THE BEST RESULTS.

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EXPORTERS AND IMPORTERS
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WHOLESALE FRUIT MERCHANT
Prompt Returns and Sales Notes Daily.
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WHOLESALE FRUIT MERCHANT & COMMISSION AGENT
Telephone: F 5550.

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CONSIGNMENTS OF FRUIT AND VEGETABLES SOLICITED.
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Bankers: E.S. & A. Bank, Market Branch.

T. Stott & Sons *FRUIT MERCHANTS* **ESTABLISHED 1882.**

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COUNTRY AND INTERSTATE ORDER TRADE SUPPLIED
SHIPPING No. 41. PROMPT SETTLEMENTS. CONSIGNMENTS SOLICITED.
PHONE: F 4370. Bankers: Bank of Australasia, Melbourne.

F. CAVE & CO.
PTY. LTD.
F. CAVE, Managing Director
Wholesale Fruit Merchants and Commission Agents.
Exporters of Fresh Fruit.
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Telegrams "CAVECOFRUT"
PHONE: F 3930

H. LOUEY PANG & CO. PTY. LTD.
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References—E. S. & A. Bank, 225 Swanston St., Melbourne.
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Cheques Sent Promptly. F 6532.

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WHOLESALE FRUIT MERCHANTS
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Growers can be assured of receiving the very best service and prompt returns.
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TELEPHONE, **F 4321**
Bankers:
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CONSIGN YOUR FRUIT TO
R. A. WING & CO.
Wholesale Fruit and Produce Commission Agents,
No. 37 Wholesale Fruit Market, Melbourne.
Branches 141 Little Bourke Street and Victoria Market.
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H. & S. FRANKEL
(Established 35 Years)
No. 44 WHOLESALE FRUIT MARKET, MELBOURNE.
Growers in all States are invited to send consignments. Highest market rates and prompt settlements.
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£500 Fidelity Bond Guarantee.

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Member of Wholesale Fruit Merchants' Association of Vic.
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Growers Will Receive Top Market Value and Prompt Returns.
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Leading Australian Firm of Fresh Fruit Exporters.
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Correspondence Invited.
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COLOMBIE EXPORT CUP.

Mr. J. A. Catto's Third Win.

In winning the Colombie Cup Competition for the third occasion, Mr. J. A. Catto, of Rheola, will now possess the trophy permanently. Mr. E. W. Spurr, of Bacchus Marsh, was second, and Mr. W. Black, of Pakenham Upper, third. The competition was judged by the Superintendent of Horticulture (Mr. J. M. Ward).

The following competitors were highly commended:—Mr. J. J. Ahern, Pakenham; Tyabb Co-operative Packing Company; Somerville Co-operative Packing Company, Harcourt Fruit Supply Society Ltd., Harcourt Fruitgrowers' Progress Association, and the Bacchus Marsh Packing Company.

Mr. Ward gave the following points to the exhibits of the leading three competitors:—

	Maximum Points.	J. A. Catto. Points.	E. W. Spurr. Points.	W. Black. Points.
Height at ends of case ..	20	19	19	18
Bulge	20	19	19	18
Quality of fruit	20	18	17	16
General appearance, compactness, alignment .	20	20	19	18
Wrapping ..	20	20	19	18
Sizing and Grading ..	20	20	19	19
Total points	120	116	112	107

APPLES FOR DOGS.

The dog is the universal friend of mankind. Most people have noted how dogs eat Apples, Grass, or other raw vegetable matter, evidently to fulfil the need for vitamins. In Poland, dog breeders give the dogs an Apple last thing at night, and it has been observed that the dogs have not only got to like Apples as part of their diet, but that they show unmistakably they do not like settling down for the night without their Apple ration.

Market Notes and Prices

VICTORIA.

Market Report for August.

CONTRARY to expectation, the citrus market was on the dull side during the whole of the month, and there was too large a quantity of faulty fruit sent in. Both demand and prices were not advanced as is generally expected during August.

Small Mardarins became very cheap towards the end of the month, a falling off in quality largely effecting this. Oranges experienced no great demand, but good Grape Fruit held to firm prices, whilst small and inferior samples were hard to quit. The cold unsettled weather doubtless was reflected in the month's trading.

Sales for Pears were only fair. Cooking varieties were hard to move except at poor prices, and Packhams held a rather better demand, with normal prices.

Apples were steady right through, but again did not respond to the anticipated rise. Taken right through, prices were easier during the month, the market can be said to have been over-supplied for the demand, but with an improvement in the weather they should firm in the next fortnight.

Bananas rose nicely in the last two weeks of the month, when large supplies caused a setback to lowered prices.

Celery sold well to a good normal demand, and prices were generally maintained.

Tomatoes are now beginning to appear from W.A. and S.A., the West Australians opening up rather green, but in good condition for fair prices. South Australians were of fair quality and sold to lower prices. Both conditions will improve in the next few weeks.

Melbourne (2/9/36).—The following prices are quoted by the Wholesale Fruit Merchant's Association:—Per Case: Apples, eating, 5/- to 7/-; choice higher; cooking, 4/- to 6/-; choice higher. Bananas, per double case, green, best 11/- to 17/-. Custard Apples, 6/- to 7/- half case. Celery, South Aust., 7/- to 9/-; choice higher, inferior lower. Grape Fruit, 4/- to 8/-, few higher. Lemons, 4/- to 7/-, few higher. Mandarins, 5/- to 8/-, few higher; small and inferior lower. Navel Oranges, 4/- to 10/-, few higher. Pears, 4/- to 7/-, few higher. Papaws, 8/- to 12/- double case. Pineapples, 7/- to 9/-, a few higher. Passion fruit, 14/- to 20/-, a few higher. Tomatoes: S.A., half cases, best, ripe, 13/-; West Aust., 7/- to 9/-; choice ripe higher. Cucumbers, 10/- to 12/- double case.

The Melboure market manager of the Federal Citrus Council of Australia reports that medium-sized Navel Oranges were in better demand yesterday. Large sizes, however, were slow of sale. Quotations were as follow:—Navel Oranges, average standards, 4/- to 6/-, a few 6/6, faulty lines lower; good standards, 4/6 to 7/-, a few 7/6; selected standards, 6/- to 9/-, a few 10/-, specially selected higher. Grape Fruit, Marsh seedless, average standards, 4/- to 5/-; selected, 5/- to 7/-, a few 8/-; specially selected, 7/- to 10/-. Lemons, average standards, to 6/-; selected 7/- to 8/-, best counts. Mandarins, Emperors, 180-196, to 7/- and 8/-, some 9/-; 250, 5/-; 270 up, nominally, to 3/- (some small unsalable); red varieties, large sizes, to 8/-, a few 9/-; good Dancy's higher. Common Oranges, selected standards, 5/- and 6/-, a few 7/-; a few well-colored bloods higher.

SOUTH AUSTRALIA.

Adelaide (28/8/36).—Apples (eating) 7/- to 9/- case. do. (cooking) 7/- to 8/- case; Bananas (Queensland), 22/- to 24/- crate; Lemons, 3/6 to 4/- case; Oranges (common), 3/6 to 4/-; do. (Mandarin), 8/- to 9/-; do. (Navel), 7/- to 8/-; do. (Poorman), 4/-; Passion Fruit, 28/-; Pears (eating), 8/- to 9/-; Pineapples, 13/- case.

WESTERN AUSTRALIA.

Perth (26/8/36).—Apples: Dunns, dumps 3/6 to 8/6 (special to 9/-), R. Beauty 3/- to 8/9, Yates, flats, 2/6 to 3/6; dumps 3/- to 11/- (special to 12/6), G. Smith, flats 4/- to 6/-, dumps 4/- to 11/- (special to 12/-); Cleo. 3/- to 8/9 (special to 9/-), Doherty 5/- to 9/-, Demo. 6/- to 7/6, Del. 9/6 to 12/-. Citrus: Vals., flats 2/- to 3/-, Navels, flats 1/6 to 7/9 (inferior from 1/-), dumps 3/- to 10/6 (special to 11/6, inferior from 1/6), Lemons 3/- to 7/6, Mandarins 2/- to 8/6 (special to 10/-). Other lines: Tomatoes 6/- to 13/9 (special to 16/6, others from 5/-), Passion Fruit, ¼ dump to 12/-, Pears, Keiffer, dumps 10/- to 14/-.

QUEENSLAND.

Brisbane (20/8/36).—Messrs. Clark & Jesser advise as follows:—During the past month the price of Apples and Pears has remained very steady, but a considerable improvement has taken place for citrus fruits.

The ruling prices at present are:—**Apples:** Jon. 2½ and 2¾, 10/6 to 11/6; 2¾, 8/- to 9/-; Rome Beauty's 9/- to 10/6, S.P.M. 10/- to 11/-, Sturmers 9/- to 10/-, French Crabs 9/- to 10/-, G. Smith's in good demand, 11/- to 13/-. **Pears** are selling well, choice W. Coles realising 13/- to 14/-, W. Nelis 11/- to 12/-, Jos. 12/- to 13/-, Packhams 10/- to 11/-, Beurre Bosc. 8/- to 9/-. **Mandarins:** Emperors 10/- to 12/-, Scarlets 10/- to 11/-, Glens 11/- to 13/-, Ellendales 9/- to 11/-. **Oranges:** 5/- to 7/-, Navels 6/- to 8/-.

CANNED FRUIT EXPORTS.

Exports of canned fruits from the commencement of the season (January 1) to July 31, 1936, are advised by the Canned Fruits Control Board, as follows. The figures quoted represent dozens of 30-oz. tins, or equivalent:

Country.	Apricots,	Peaches.	Pear.	Fruit Salad.	Pines.	Total.
U.K.	231,322	704,008	524,880	—	2,500	1,462,710
N.Z.	11,088	11,000	950	—	3,378	26,416
Canada	14,531	86,990	7,895	2,980	—	112,396
East	3,638	9,640	6,588	1,218	58	21,142
Misc.	722	1,544	2,554	48	336	5,204
Total	261,301	813,182	542,867	4,246	6,272	1,627,868

F. CHILTON
ESTABLISHED 1894
FRUIT COMMISSION AGENT
Licensed under Farm Produce Agents Act
Highest Market Prices — Prompt Returns — Reliable Advice
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References :— Bank of N.S.W., Haymarket, Sydney and Growers throughout Australia
CITY FRUIT MARKETS, SYDNEY

Highest Prices. A. S. BARR Prompt Returns.
FRUIT EXCHANGE, BRISBANE, QUEENSLAND.
Wholesale Fruit Merchant and Growers' Agent.
A Trial Solicited. Returns Speak for Themselves. Shipping No. 19.
Established 1888. Registered Telegraphic Address: "Barr, Brisbane."

ROBSONS LIMITED
(Wm. Robson, Managing Director.)
Guarantee Satisfaction to Clients. Send us a Trial Consignment.
FRUIT EXCHANGE, BRISBANE, QUEENSLAND.
Account Sales and Cheques Sent Promptly.
Shipping No. 28.

Herbert Wilson Pty. Ltd.
WHOLESALE FRUIT MERCHANTS AND COMMISSION AGENTS
Nos. 1 and 10, Wholesale Fruit Market, Melbourne.
Accredited Agents for Victorian Central Citrus Association and Affiliated Association.
City Telephone: F 6444. Private Phone: M 3055.
Bankers: National Bank of Australasia (Western Branch), Melb.

Tomatoes: 3/- to 5/-. **Pineapples:** rough 4/6 to 5/6 case, smooths 5/- to 6/- case. **Bananas** are in light supply, and realising 13/- to 15/- case.

The weather here in now getting warm, and the demand for fruit is improving.

Brisbane. — Messrs. Robsons Pty. Ltd. report, under date August 20, as follows:—All descriptions of fruit are selling freely at the present time, choice lines realising firm rates.

Apples: Jon., Romes, Cleos., and Demo., to 12/-; Sturmers 10/-, Green Crabs 11/-, and G. Smiths to 14/-. **Pears:** W. Coles to 14/-. **Oranges:** Val. to 8/6, Navels to 10/-. **Lemons:** Popular sizes to 13/-. **Mandarins:** All choice varieties from 11/- to 14/-. **Pineapples:** Smooth Leaf 7/- case, and Roughs to 6/-. **Custard Apples** are nearly finished, and are realising to 4/6. **Passion Fruit:** Good quality to 12/-. **Papaws:** Choice to 11/- per tropical case. **Bananas:** Sixes to 12/-, Sevens to 13/6, and Eights to 15/-. **Tomatoes:** Green to 5/-, and colored to 6/-.

NEW ZEALAND.

Dunedin (20/8/36). — Messrs, Reilly's Central Produce Mart Ltd. report that fair business has been experienced during the week in sales of fruit and vegetables. Some very fine consignments of dessert Apples have been received, these having a good inquiry. Low-grade lines are very difficult to clear.

New Zealand Lemons show a sharp advance in price. Trans-shipments to hand ex the "Makura" include Cal. Grapefruit, Lemons and Grapes. This boat also brought a fair shipment of Raratongan Tomatoes, Bananas and Oranges.

The "Waitaki" has arrived with a further shipment of S. Aust. Navels, which met with an excellent inquiry. A small shipment of Mandarins and Q'land Pineapples also came to hand. There is a good demand for ripe Bananas.

Per Case: Cal. Lemons 75/-, Grapefruit 35/-, Vals. 38/-, Grapes 30/- to 32/-, Aust. Navels 15/- to 21/-, Mandarins 26/-, Ripe Bananas 19/-, Pears 18/- to 21/-, Apples, first grade, G. Smith 7/6 to 10/-, Cleo. 5/- to 6/-, Jon. 6/- to 7/6, Del. 7/- to 9/-, Sturmers 6/- to 9/-, R. Beauty 5/- to 6/-, Lord Wolselys 5/6 to 6/-; Cooking Apples 5/- to 6/-, Black Spot second grade fruit, 3/- to 4/6; Pears, W. Cole 7/- to 10/9; Nelis 8/- to 11/-, Cooking Pears 5/-, N. Z. Lemons 20/- to 22/-, Marmalade Oranges 10/- to 12/-. Per Half Case: Pears, W. Cole 4/6, Nelis 4/- to 5/-.

PARENTS BE CAREFUL.

To The Editor, "Fruit World and Market Grower."

A serious danger for children on fruit ranches and other farms is the open or carelessly covered well or cistern. I have personally known of a good many children who lost their lives from this cause.

Another serious danger is the habit with some farmers of throwing down boards with nail points sticking out of them, which become infected, and are stepped on by little bare feet, often causing tetanus and death. I believe that these dangers are due usually to the father's thoughtlessness.

So lets cover the wells and cisterns securely, and pull the nails from the boards, and be safe.

Carefulness is better than Remorse.

—A. Z. Potter, Independence, Kansas, U.S.A.

DRIED PEACH CONTEST.

Includes all Phases of Treatment.

As a means of stimulating growers to turn out top quality dried Peaches, the Dried Fruit Association of California has announced a £240 prize contest. The contest is open to growers of the four leading districts who produce 5 tons or more. The judging system used will be a maximum of 500 points each for: Methods of harvesting and picking, general sanitary condition of the drying yard and premises, condition of equipment, workmanship, color, texture, smoothness and meatiness and freedom from defective fruit.

U.S.A. ORANGES IN FRANCE.

10,000 Tons This Season.

A special quota of 10,000 metric tons has been granted for imports of Oranges from U.S.A. into France during the coming citrus season, according to advice from the Commercial Attaché in Paris.

FIRMS IN THE FRUIT TRADE.

A. E. Pitt.

(No. 13 of Series.)

THE present position in the wholesale fruit business is sound, said Mr. A. E. Pitt, when interviewed by our representative. There is no call for pessimism so long as the present happy relations and co-operation continue between the grower, the wholesale merchant and the retailer.

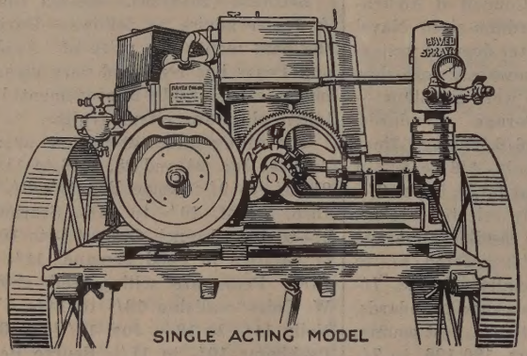
Mr. A. E. Pitt.

In the past few years, growers have consistently improved their packs, and while this is to be commended, it is only fair to state that there is still room for improvement on the part of some growers. It is an observation of Mr. Pitt, following long experience of wholesale selling, that better returns are definitely made to those growers who present their fruit attractively. There is no room for doubt that prices are regulated largely, not only by quality, careful grading and packing, but also by attractive branding. This factor, supported by high quality fruit, makes easier selling and brings better prices for the grower.

The late Mr. A. E. Pitt established a wholesale fruit business in Adelaide over 50 years ago. The Pitt family had long been known in South Australia as fruit growers, and the wholesale business flourished accordingly. In 1893 a branch of the Adelaide house was opened in Melbourne, and has continued till the present day.

Eleven years ago, after experience in the wholesale distribution of fruit in three States, Mr. A. E. Pitt, the present proprietor, took over the management of the Melbourne business. At the time the business was conducted at the Western Market, but the removal to the present quarters, No. 14, Wholesale Fruit Market, made possible an extension of the business.

The **BAVE-U** Power Sprayer



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SPECIAL NOTICE TO FRUITGROWERS

All Members under Fidelity Bond

In response to numerous requests from growers for information as to who are members of the

Wholesale Fruit Merchants' Association of Victoria

the following list is given. All are members of the above Association, and are registered firms carrying on business in the

WHOLESALE FRUIT MARKET, MELBOURNE.

STAND NUMBERS ARE AS INDICATED IN PARENTHESES.

T. STOTT & SONS (26).
H. L. E. LOVETT & CO. (23).
A. E. PITT (14).
J. DAVIS PTY. LTD. (8).
W. S. TONG (31).
SILK BROS. PTY. LTD. (24-25).
J. G. MUMFORD (35).
GOLDEN VALLEY FRUIT CO. PTY. LTD. (15).
J. W. ROSS (13).
H. M. WADE & CO. (21).
DAVID SMITH PTY. LTD. (3).
SILBERT, SHARP & DAVIES PTY. LTD. (17)
W. A. WATKINS (5).
P. A. PATRIKEOS (36).
G. WOOLF & SONS (29-30).
F. CAVE & CO. PTY. LTD. (9).
R. CORNISH & SONS (5).
J. HYMAN & SON (51).
HERBERT WILSON PTY. LTD. (10).
FRANK BOOTH & SONS PTY. LTD. (16).
GEO. LISTER PTY. LTD. (12).
TIM YOUNG & CO. PTY. LTD. (18).
F. W. VEAR PTY. LTD. (28).
YEE HOP LOONG & CO. (32).

Correspondence is invited by the Association.

Office : 21 Wholesale Fruit Market, Queen Street, Melbourne. Phone F 4866.

Ship Your Oranges, Lemons, Grapes to New Zealand

All consignments for this market will have careful attention and realise highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

PERSONAL SUPERVISION OF EVERY CONSIGNMENT.

Cheques posted promptly.

Drop us a Line or Cable: "Peachbloom," Dunedin.

At present the business is intimately connected with the distribution of Bananas, Beans and all tropical fruits from Queensland and northern portions of New South Wales; Tomatoes and Celery from S.A.; Tomatoes from W.A.; Cherries from Adelaide, and from the Young and Orange districts of N.S.W.; citrus fruits from N.S.W. and Victoria, besides all the regular fruits in season from country and metropolitan districts in Victoria.

The business in Beans and Peas has extended satisfactorily, and four stands are now being operated in the Victoria market, following the development of a separate organisation to serve this department, and an increase of staff to cover this growing business.

Mr. Pitt personally controls the operations of his business, and is well-known to both growers and retailers from his frequent visits to the orchards of his clients, and his regular attendance at the markets. Naturally he has seen many changes in marketing conditions and systems, the principal one recalled in the change that has occurred with the advent and development of motor transport by road, quicker delivery from orchard to market, and mobility in personal visits to growers. In this modern departure he sees both good and bad features, but the trade has adapted itself to the modern conditions of distribution.

His belief is very firm that as growers, distributors and retailers give to the buying public high quality fruit at a reasonable price that is within the buyers' means and yet that will return to the grower an adequate recompense for his hard work, the consumption of fruit will consistently increase to the mutual benefit of all.

Mr. Pitt is a member of the Wholesale Fruit Merchants' Association of Victoria. Included in his equipment at the Wholesale Fruit Market are well-equipped Banana-ripening rooms, in fact, every department of the fruit distribution business is well organised.

Among the Retailers

The Treasurer of the Melbourne and Metropolitan Retail Fruiterers' Association sends along the following information:—

A monster petition has been presented to the Shops and Factories' Department, asking for the compulsory closing of fruit shops in the metropolitan area at 1 p.m. on Saturdays during the months of May, June, July, August, September and October inclusive. The petition was signed by 892 retail fruiterers, who contend that they are entitled to a little curtailment of the existing long hours they are compelled to work. They also consider that the public will not be put to any inconvenience in securing their supplies as all shops and most markets are open until late on Friday nights and 1 p.m. on Saturdays, and as it is during the cold months of the year the goods will keep in good order.

As usual, like when the grocers and butchers and other traders decided to shorten their trading hours, there are one or two pessimists to be met with who cannot see how they are going to get their Potatoes, etc., for Sunday's dinner, but retail fruiterers are quite convinced the public will be adequately catered for, and also with no inconvenience to themselves. Most retailers intend to make Friday their principal marketing day, and possibly the growers who still come in on Saturdays may change also with advantage to themselves.

Parking Space for Retailers at the Queen Victoria Markets.

It has been a sore point with the retailers for years as to where they can park their vehicles whilst attending the market, so as to be in reasonable proximity to the growers from whom they purchase their supplies.

When one considers that the site on which the Victoria Market now stands is some sixteen acres in area, and that the total number of stands for growers alone now numbers 976, with an approximate frontage of 9,000 feet, or just about 1¾ mile, it may convey to the reader some idea of the amount of ground that the retailer has very often to cover in order to complete all his requirements, and particularly if he happens to be so unfortunate as to be parked in one or other of the extremities of the market.

A tally of retailers' vehicles last year (1935) shows that an average of over 1,700 vehicles attended the market on Tuesdays, Thursdays and Saturdays, and added to this must be included many huge transport trucks which now bring produce for disposal at the market from all parts of Victoria, and often New South Wales, and which then are parked in close proximity to the market during the night to be handy next morning to load with back loading of other varieties of goods.

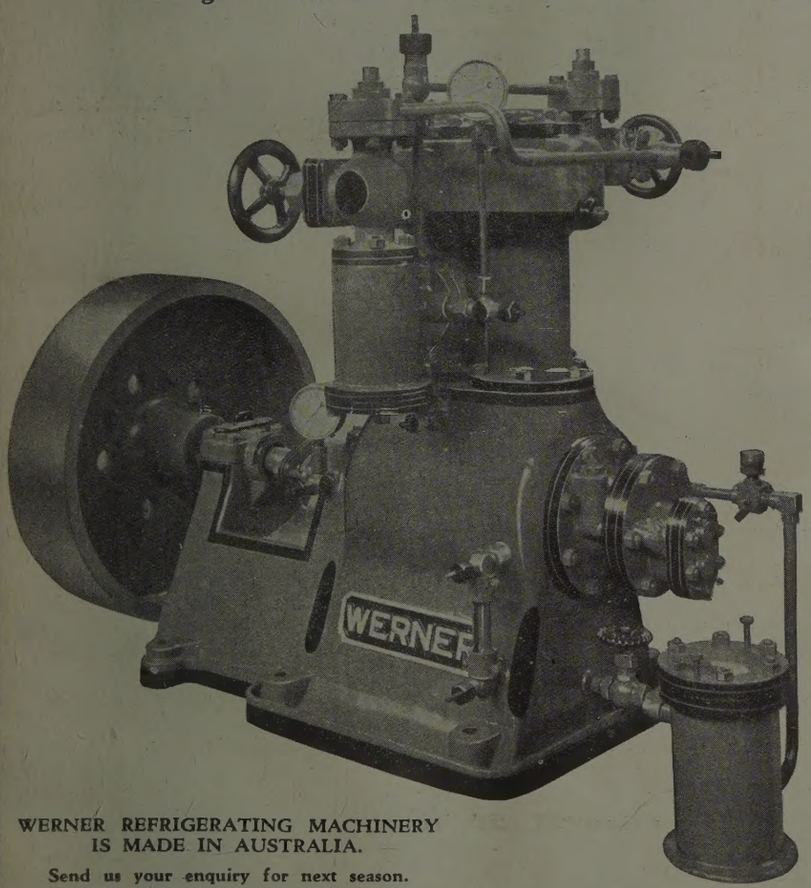
With the continual increase of motor transport, the problem is sure to become worse, and some definite steps will have to be taken by the City Council to solve the problem.

The newly-formed Council of representatives of all organisations who have members trading at the wholesale section of the Victoria Market, has been named "The Victoria Market Combined Traders' Council": this comprises the following Associations:—The Wholesale Fruit Merchants' Association, the Fruitgrowers' Association, the Market Gardeners' Association, the Berry Growers' Association, the Flower Growers' Association, Produce Merchants, and the Retail Fruiterers' Association. This Council will probably discuss this most

"WERNER" PLANTS Refrigerate Over 1½ Million Cases

of Fruit in over 60 Stores throughout the Commonwealth

We design and Install Plants to Store from 500 Cases upwards



Enclosed Type Ammonia Compressor *Suitable for* Full Automatic Control

Direct Expansion *or* Brine Circulation

Type of Compressor made by Werner from 10-ton upwards.

WERNER REFRIGERATING MACHINERY IS MADE IN AUSTRALIA.

Send us your enquiry for next season.

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Cold Storage Has Been A Big Factor in Developing The Fruit Industry

Stabilising Effect of Spreading Sales

Advantage of Cool Store on Individual Orchards

A Review of the Operations of R. Werner & Co. Pty. Ltd.

COLD STORAGE has probably played a bigger part in the stabilising of the fruit industry in Australia, particularly Apples and Pears, than any other movement. With the increased quantities of these fruits coming into bearing each year, and the limitation of exports, the need for still more cold storage capacity throughout Australian fruit districts is even greater. Movements are now taking place with a view to increasing the local consumption of Apples and Pears, and consideration is now being given by leading organisations connected with the industry to the question of advertising.

It would seem that to some extent the local market has not been developed to its fullest extent because of the fact that in the past there has always been the export markets to look to. It is now, however, fully realised by growers and exporters that there is a limit to the quantity that can be exported at payable prices.

Individual Stores.

Cold storage is destined to play an important part in enabling the local consumption to be increased by spreading the period of marketing Apples and Pears over a longer period than as at present. Cool stores in the districts have enabled growers to regulate the distribution of their fruit sales, particularly in regard to interstate markets, and it is certain that some further developments will have to take place, not only by means of district stores, but also by the erection of cool stores on the orchardists' individual property. Each year brings further developments in this direction, and individual orchardists are now operating satisfactorily, cool stores ranging in capacity from 1,000 to 15,000 cases. Those individuals who have already erected stores have proved the value of same, and in addition to affecting savings in their costs they have also been enabled to save time and expense in carting their fruit from their orchard in the district store. The time they have saved in this respect has enabled them to devote more time to other necessary work on the orchard.

Costs of Erection.

It is interesting to note the following extracts of a private orchardist who recently erected a store on his property: A store with a 11,000 case capacity, built recently cost approximately £2,400. The best materials were used throughout, with crude oil engine drive, refrigerating plant, also an electric lighting unit for the store and the home. After allowing for interest, depreciation, maintenance, all upkeep and running expenses on a very liberal scale, it cost approximately only 8d. per case per year. This figure was arrived at after allowing for the building to be written off over a period of twenty years, and the plant in ten years. It is, of course, well known that if the store is a good job it will still be doing good service for another twenty years after the period that it has been written off.

The actual cost for fuel and lubricating oil on this store was about 1½d. per case per year. These figures were arrived at on the store capacity of 11,000 cases, whereas if more fruit is put through the store the cost per case would be reduced.

Messrs. R. Werner and Co. Pty. Ltd., whose experience in cold storage matters ranges over many years, have taken out careful figures in connection with the erection of small stores, and it is interesting to note that stores with a capacity from 5,000 to 10,000 cases can be built and equipped for an approximately all-round figure of 5/- to 6/- per case, or even less in larger sizes.

Store and Buildings Permanent Asset.

In considering the question of the erection of a store on the orchard, it should be borne in mind that such a store is a permanent asset and, in addition to providing cold storage space, it also provides facilities for an up-to-date packing and grading room, also space for storing other materials such as cases, shooks, wrapping paper, wood wool, etc. Some stores use the space between the top of the refrigerating chambers and the roof of the cool store for this purpose. The cost of putting a floor down is a nominal one, and the space so provided can be used very effectively.

Additional shed accommodation can also be obtained by building a lean-to or skillion roof all around the store. This roof provides adequate protection from the weather, and eliminates the cost of erecting of weatherboard walls, and also saves the painting of the boards.

Contrary to some ideas that are prevalent, no very great technical engineering ability is required to operate the plant and machinery used in a cool store.

Space does not permit of us dealing with the details in connection with the erection of a store such as outlined above, but Messrs. R. Werner and Company will be pleased to give a definite estimate for a cool store, ranging from 3,000 cases upwards. They will also be pleased to discuss methods of financing such a proposition.

Cool Stores a Necessary Part of Cannery Equipment.

Recent years have demonstrated the value of a cool store adjacent to canneries, and they have now become recognised as a necessary part of cannery equipment. A cool store adjacent to a cannery is particularly valuable for precooling Pears and Peaches. Canneries find that Pears and Peaches, after being placed in cool store, ripen evenly, thus allowing the work of canning to proceed smoothly. The system used in these precooling plants is a new one to fruit storage and comprises a combination of direct expansion and air circulation by means of a fan with ducts and blinds individual to each chamber. Generally speaking, the system is based on the quick movement of air through the stacks of cases.

In recent years the following canneries have erected cool stores adjacent to their canning plants:—Leeton and Griffith in the Murrumbidgee Areas have stores capable of holding 30,000 and 20,000 cases respectively. These are equipped with heavy duty precooling plants. The Australasian Jam Company has storage capacity for 50,000 cases, Shepparton Cannery 120,000 cases; and increasing Kyabram Cannery erected a cool store which operated for the first time this year with a capacity of 35,000 cases.

System of Refrigeration.

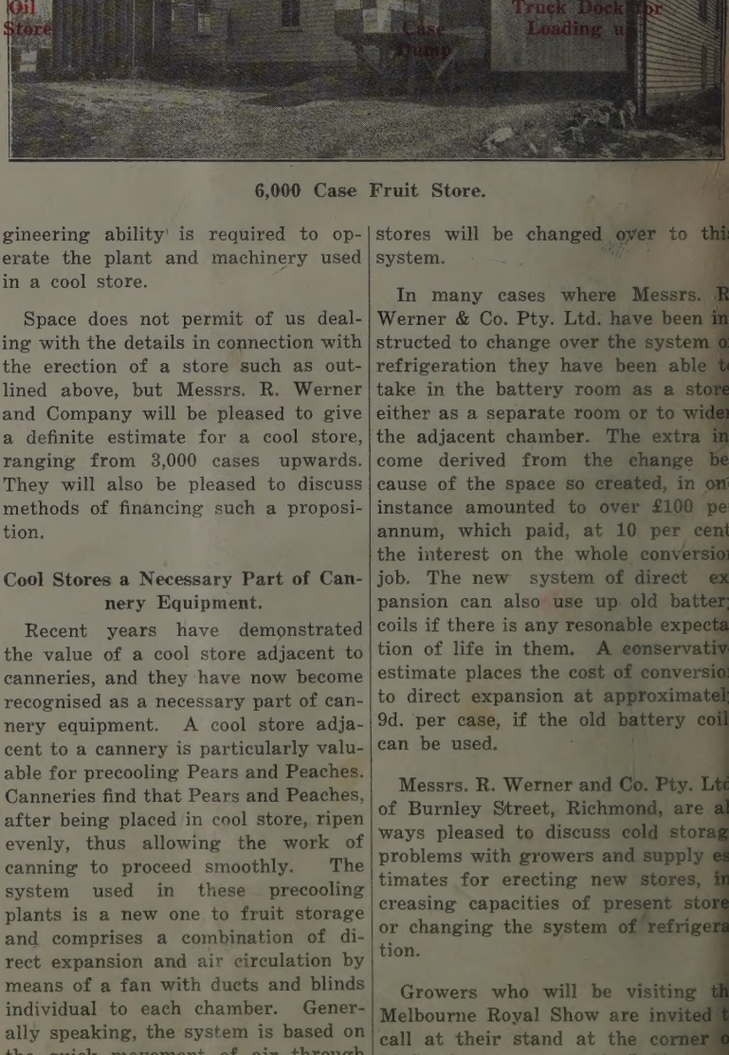
Scientific research has developed a new direct expansion method of refrigeration and it is generally agreed that this system as far as the storage of Apples and Pears is concerned is a vast improvement on the old air circulation system, and icing-up troubles have been eliminated.

It has been found that the direct expansion system improved the quality of the fruit stored, especially those cases taken out of the store towards the end of the year. In addition running costs are definitely less than on the older air system. This particularly applies to those stores which are driven by electric motors. Engineers who staunchly stood by their battery system for years have been converted to direct expansion, and it seems only a matter of time when all stores will be changed over to this system.

In many cases where Messrs. R. Werner & Co. Pty. Ltd. have been instructed to change over the system of refrigeration they have been able to take in the battery room as a store either as a separate room or to widen the adjacent chamber. The extra income derived from the change because of the space so created, in one instance amounted to over £100 per annum, which paid, at 10 per cent the interest on the whole conversion job. The new system of direct expansion can also use up old battery coils if there is any resonable expectation of life in them. A conservative estimate places the cost of conversion to direct expansion at approximately 9d. per case, if the old battery coil can be used.

Messrs. R. Werner and Co. Pty. Ltd. of Burnley Street, Richmond, are always pleased to discuss cold storage problems with growers and supply estimates for erecting new stores, increasing capacities of present stores or changing the system of refrigeration.

Growers who will be visiting the Melbourne Royal Show are invited to call at their stand at the corner of McCracken-avenue and Lobb-street at the Melbourne Show Grounds, or at their works at the address mentioned above.



6,000 Case Fruit Store.

AMONG THE RETAILERS.

(Continued from page 43)

vexed question at an early date (probably Wednesday, August 26).

With the co-operation of all concerned, and the help of the Markets Committee, we hope to achieve a solution that will be satisfactory to both growers and retailers. Remember the nearer you, as growers or agents, can bring the buyers to you, the better chance you have to sell your goods. We, as retailers, are naturally delighted with the formation of this new advisory council of the users of the Victoria Market, as we realise that where an individual body at the market may not get much redress, there is always a possibility of the Markets Committee or its officers listening to reason when any suggestion is brought forward by such a representative body as this newly-formed Council promises to be, we think it is a progressive move, and who should be in a better position to judge as to how the market should be conducted than those who use it, and whose opinions should be invaluable to those controlling the market.—Chas. Mawdsley, Treasurer, Melb. and Metrop. Retail Fruiterers' Association.

PORT OF SOUTHAMPTON.

Interesting particulars regarding the Port of Southampton were contained in a letter recently received from Messrs. H. W. Bevan and Co., Sydney. In the nine days, February 17 to 25, four ships from South Africa, with cargoes of deciduous fruits, were effectively discharged and handled, representing a total of 558,209 cases.

The Port of Southampton is rapidly developing in importance.